



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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D. K. MINOR, EDITOR.]

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NEW-YORK, MAY 11, 1833.

TO CORRESPONDENTS.—The communication of C. O. is received. Mr. Bulkley's reply to U. A. B. upon the "Guard Rail," and Mr. Sullivan upon the same subject, are also at hand, but unavoidably deferred until next week, that other articles which have been some time in type may be disposed of. They will all appear in our next.

NEW-JERSEY RAILROAD.—The following paragraph from the Newark Daily Advertiser refers to a work of which we have before been able to learn very little—yet, to this city and the section of New-Jersey through which it passes, a work of great importance. From the extracts given in this number of the Journal, it will be perceived that the charter gives the company the privilege of constructing branches, and of levying rates of toll, which will, beyond all doubt, render an investment in its stock highly profitable. The charter requires that the work shall be commenced both at Jersey City and New-Brunswick, within two, and the entire line completed within five years.

"Our readers will find in our columns a brief abstract of the charter of the New-Jersey Railroad, and a reference to the law which requires the Camden and Amboy Railroad to construct a branch from New-Brunswick to their road, thus furnishing a continued communication by Railroad through the heart of the state, so loudly called for and ardently desired by the people of New-Jersey. We have thought that a publication of the principal provisions of the Railroad charter, at this time, would be acceptable to our patrons, because this grand and

important enterprize of internal improvement is rapidly advancing in favor with capitalists and the public generally. The merits of the contemplated work need only be known, to ensure for it the most favorable regard of the community, it being abundantly manifest that the road will be highly advantageous to the section of country through which it passes, and productive of a rich revenue to the stockholders."

Madison, Madison co. N. Y. May 1, 1833.

To D. K. MINOR, Esq. :

Dear Sir,—It is with pleasure I embrace a few moments of leisure from my duties, in preparing for the location of the Chenango Canal, to comply with my promise of sending you some of the leading facts, in relation to the Saratoga and Schenectady Railroad.

This Railroad was commenced about the first of September, 1831, and opened for travelling the 12th of July, 1832, through the whole route, except a heavy section at the village of Ballston, which was also opened for travelling about the 15th ultimo, making the communication complete from the Mohawk and Hudson Railroad at Schenectady to Saratoga Springs.

The general direction of the road from Schenectady to Saratoga Springs is about north 30° east. Its total length from the Mohawk bridge at Schenectady to its termination at Saratoga Springs, is 21 $\frac{4}{10}$ miles. The total cost of construction, including buildings for carriage houses, stables, and two dwellings, was \$217,201 $\frac{22}{100}$ or equal to \$10,149 per mile. This is exclusive of the cost of lands, and the compensation of such general agencies as are not embraced in the engineer department.

About three miles of the road is put down on stone foundation. The plan pursued for this kind of road was to excavate a trench under each rail 2 $\frac{1}{2}$ feet, and 2 $\frac{1}{2}$ feet in width, and fill the same with broken stone. These stones were rammed down in courses of four inches; on this bed of broken stone a block containing two cubic feet of stone was laid down and finally bedded at every three feet distance from centre to centre. On these stone blocks cast iron chairs were firmly fastened to receive the rail timber, which was secured by wedges. On this timber a flanged plate of iron was laid, to form the track. At every eighteen feet a cross

tie of timber secured the rails from spreading. This plan of construction requires the road to be well drained; and when put down thoroughly makes a substantial, and, except the timber in the rail and cross ties, a permanent structure.

The remainder of the road is put down on a timber foundation in the following manner. A timber is laid nearly under the rail, called a longitudinal sill; on this timber the cross sleepers are laid at three feet from centre to centre; the cross sills have a notch (or gain) cut to receive the longitudinal sill, and also to receive the rail timber, which is secured to it by wedges. The rail timber is capped with the iron plate, same as on stone foundation. This mode of construction is not generally quite half as expensive as that before described. There was some apprehension it would suffer much from frost; the experience of the past winter, however, has not confirmed the fears that were entertained. If the road is well and uniformly drained, the frost affects it but little, and that so uniformly, as not to produce an irregularity that materially injures its use; and when the ground is settled in the spring, this kind of road is very readily adjusted. It is more favorable for the carriages than the stone foundation, but, for the same reason, the traction is not as easy.

The road has a single track, and with some exceptions is graded on a substantial and permanent plan. The grade of the road is in part level; the remainder is undulating at various angles of inclination, in no place exceeding 16 feet in a mile, or at the rate of 1 foot in 330.

In December last I prepared a plan for a locomotive engine, which was submitted to the Directors of the Company, who have subsequently ordered an engine to be constructed by G. Stevenson, & Co. (England) agreeably to the same, and which it is expected will be on the road in June next. It will be mounted on six wheels. As soon as we have a fair trial (which I have no doubt will be successful) I shall give you an account of her performance.

In haste: very respectfully, your obedient servant,
JOHN B. JERVIS, Civil Eng'r.

Canal Tolls.—The returns received at the Comptroller's office show that the amount of tolls collected on all the canals of the state, from the 22d to the 30th of April, was NINETY-THREE THOUSAND AND SIXTEEN DOLLARS: averaging \$11,626 for each day. The receipts, notwithstanding the diminished rates of toll, have surpassed those for the same number of days after the opening of the canals, in any former year. —[Argus.]

IMPROVEMENTS IN PENNSYLVANIA.

(Continued from page 276.)

6. Mine Hill and Schuylkill Haven, at the mouth of the West Branch of Schuylkill, up that stream 10½ miles to Mine Hill Gap. Finished and in use. Trade, coal. Belongs to a company.

7. Mount Carbon Railroad. From Mount Carbon, one mile below Pottsville, up the valley of the Norwegian creek—main line and branches about seven miles. Finished and in use. Trade, coal. Belongs to a company.

8. Danville and Pottsville Railroad. From Pottsville to Sunbury, opposite the forks of the Susquehanna. Length 45 miles—eight miles nearly completed. It is designed to accommodate the great coal region on the Shamokin, Mahoney, &c. and to connect the Susquehanna with the Schuylkill canal. Belongs to a company.

9. Schuylkill Valley Railroad. From Port Carbon at the head of the Schuylkill navigation, up that river to the town of Tuscarora—distance 10 miles. Trade, coal. Belongs to a company. Finished and in use.

10. The Mauch Chunk Railroad. The first of any magnitude completed in the United States. From the head of the Lehigh Canal at Mauch Chunk, to the coal mine on the summit of Mauch Chunk mountain. Aggregate of main line and branches, 12½ miles. Belongs to the Lehigh Coal and Navigation Company.

11. The Roan Run Railroad. From Mauch Chunk, up the Lehigh to a Coal Mine—length 5½ miles. Finished and in use. Belongs to the above company.

12. Lyken's Valley Railroad. From Millersburgh to the Susquehanna, up Lyken's Valley, to a Coal Basin in the Brody Mountain. Distance sixteen and a half miles. Begun, and will be completed this year.

13. Carbondale Railroad. Belongs to the Hudson and Delaware Canal Company, and connects that work with the Coal Mines in the valley of the Lackawana. Length of road 16½ miles. Finished and in use.

14. The Philadelphia and Trenton Railroad. From Philadelphia to the Delaware Bridge near Trenton. Distance 27½ miles. The line is located, and contracts made for grading and bridges. To be finished this year. The rails will be laid next year. Belongs to a company, and is designed to accommodate transportation between Philadelphia and New-York.

The above list is believed to comprise all the important Railroads in Pennsylvania, actually finished, or upon which arrangements have been made for their early completion. Some smaller or branch lines have been probably overlooked. There are also several very important works which have been authorized by law, and which there is reason to hope will be soon commenced. Of this class are the Williamsport, and Elmira, and Phillipsburg, and Juniata Railroads. We have not named the York and Baltimore Railroad, as we believe that portion of it which lies in Pennsylvania has not been commenced.

Among other documents connected with these interesting subjects, we have been favored with a report of a survey made by Mr. R. Taylor, * Engineer, with a view of

forming a railroad from the coal and iron mines near Blossburg, to the state line at Lawrenceville, a distance of twenty-six miles.

Mr. T.'s report is rendered exceedingly interesting by the numerous tables and descriptions it contains, of the various mineral sections of the mining districts surrounding Blossburg. Speaking of the mineral resources of the Tioga Valley, after giving a detailed account of those sections, showing the position and thickness, of the respective beds of coal, iron, fine clay, sand stone, slate, shell, and other strata, he thus proceeds:

"In taking a general view of this district it will be seen that the valley of Blossburg forms a kind of central point or area, from whence diverge, irregularly, a number of smaller valleys or deep ravines. All these valleys, to the number of twelve, rise with a rapid inclination above the level of this area, until they intersect the mineral strata of the surrounding mountains, at elevations, between the lowest and the highest, of from 200 to more than 380 feet, the prevailing elevation of the summits or table lands being 500 or 600 feet above Blossburg bridge. Coal and iron ore of different qualities prevail extensively, and when thus intersected by deep ravines, occur under the most favorable known circumstances for mining, and for transmission upon railroads."

"Almost every valley is capable of maintaining its separate branch railroad, and of conveying its contribution of these important products to the principal line."

"The series of mineral strata are estimated to be crossed by the Tioga river at from 5 to 8 miles east from Blossburg. The examination has been thus far pursued, and traces of minerals are discernible throughout that distance; but as the river passes through gravelly alluvial bottoms, where the banks are not washed or exposed, their examination was left in an incomplete state. The whole inclination is perfectly practical for railroad purposes, whenever it should be thought necessary to locate one down the valley."

"At the forks near Fishing Camp, about five miles up the Tioga, this river is joined by Fellow's creek, which traverses another section of this district from the northeast. The upper part of this ravine is crossed by three falls, in succession, descending about one hundred feet. Below them are numerous indications of the proximity of coal and iron, but the banks are too much obscured by alluvial deposits to exhibit the precise sites of the mineral beds on a single examination. Several small ravines descending into this branch, and into Morris's Run, contain traces of coal."

On the east side of the Tioga, nearer Blossburg, are the four principal ravines of East Creek, Bear Creek, Coal Run, and Morris's Run. There are two or three other ravines in the same direction where the coal beds are approachable. On the west are the two ravines of Boon's Creek and Johnson's Creek.

"Three miles below Blossburg there is a regular dip, at the rate of 260 feet to the mile southward, which increases until at 17 miles it is about 500 feet in a mile, and then decreases to 200 feet per mile, at the State line, or 26 miles."

Blossburg, or Peters's Camp, to the State line at Lawrenceville, in the county of Tioga, and the state of Pennsylvania, and Mineralogical Report on the coal region in the environs of Blossburg. By Richard C. Taylor, Engineer. Philadelphia, Mifflin and Parry. 1833.

"If we pursue this examination for the sake of a more extended geological result, our position will be yet further strengthened."

"At 33 miles below Blossburg, the southern dip is 168 feet in each mile; and at 38 miles, near the Painted Post, was found to be 130 feet. At 42 miles, at the Chimney Narrows, in the same parallel, near the entrance of the Chemung feeder, this dip is about 100 feet, making the aggregate southern depression of the strata about 1050 feet more to this point, to be added to 70 feet, the descent of the land from the state line. Uniting, therefore, these sums with those before observed in the Pennsylvania division, the altitude of any land or mountains near the Chimney Narrows, capable of containing the veins of the Tioga coal field, must be more than 6000 feet, whereas they do not commonly exceed 600 feet; or by reversing the position, the stratum of rock on a level with the river of Chimney Narrows would be about 6275 feet below the summit of East Hill, if prolonged so far to the south. I may add that I have had an opportunity of extending the examination 60 miles further, or more than 100 miles from the coal beds, to the north and north-east; and a general observation may be made, that wherever a horizontal position [which often prevails] is not maintained throughout this parallel, there exists a depression pointing towards the Tioga coal district, or, generally, south. Consequently there is no probability that any portion of these mineral beds are prolonged in that direction, and, as has been before suggested, we must continue to regard the district which is the more immediate subject of our investigation, and from which I have somewhat wandered, as the real termination of the great Alleghany coal field."

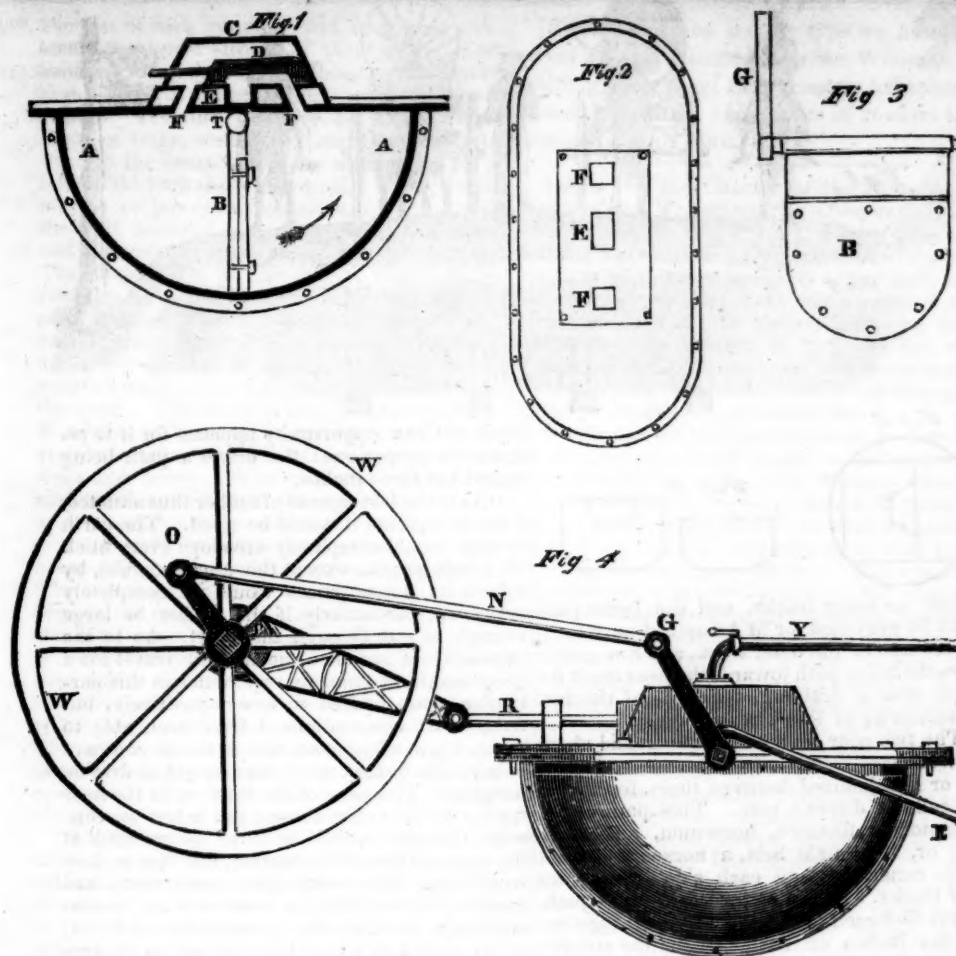
Mr. Taylor's report is drawn up with great ability, and is of itself evidence of great industry and perseverance on his part. We sincerely hope that this most important plan will very soon be added to the list of works in active operation, feeling confident that it will materially benefit the commercial interest of Pennsylvania.

Improved Rotary Engine. By G. N. To the Editor of the Mechanics' Magazine.

SIR,—In your last number I noticed a description of Ericsson's Rotary Engine, extracted from the London Mechanics' Magazine, the chief recommendation of which is its extreme compactness combined with its power. Hitherto Rotary Engines have met with poor success, and this has in a great measure been owing to the great friction which is necessary for preserving the piston tight, or, a want of surface for the steam to act upon. In a reciprocating engine, the constant distribution of power for moving the valves, and gearing, necessary to communicate a reciprocating to a rotary motion, must amount to considerable. Now in Rotary Engines all this is avoided, and motion may be communicated to machinery without the slightest difficulty. Judging from the description, Ericsson's Engine has, however, one disadvantage, and that is the difficulty of construction.

Nothing is more requisite for the good performance of any machinery than simplicity and harmony in all its parts, and, the more simple the machine, the better is it made, and consequently the more successful. I give below a description of an Engine invented, I believe, by a Mr. Mollery, of Os-

* Report on the Surveys undertaken with a view to the establishment of a Railroad from the coal and iron mines near



wego, which is even more compact than Ericsson's, and much more simple and easy to construct. The only one which I have ever seen was used for propelling a small boat called the "Water Witch," about the size of a common canal boat. She had two engines, one to each wheel, and these were of such dimensions that a man might easily carry one in each hand. And yet it worked rapidly and easy, moving the boat with considerable velocity—say, 10 miles an hour. The whole machinery occupied about a third of the boat.

EXPLANATION.

Fig. 1 represents a longitudinal section through the middle of the chamber A A. B is a piston or vane, moving on the axis T, packed in the usual manner. D, a slide moving in the steam box C. F F are pipes or holes for throwing the steam on the piston. E, the aperture for the exhaust.

Fig. 2 is a top view of the cap to the chamber, having the steam box taken off. F F, holes communicating with the interior of the chamber. E, exhaust hole.

Fig. 3 is a detached view of the piston; G is a bar for giving motion to the crank.

Fig. 4 is a side view of the engine, with all its parts. G is the bar meeting the rod N, which joins the crank at O. P is an eccentric for moving the slide. R, rod for the slide. E, exhaust pipe. Y, pipe for conveying steam from the boiler. W, balance wheel for equalizing the motion. The chamber being in two parts, is screwed together by nuts as shown in Fig. 4. It remains then only to show the manner of setting it to work. This is effected in the following manner—steam being admitted to the steam box by means of the pipe Y, enters the open pipe F, (Fig. 1,) moving the vane to a horizon-

tal position, in a direction with the arrow. The slide D is then moved by the eccentric, and the steam is thrown on the other side of the piston, moving it in a contrary direction to a horizontal position. In this manner a regular reciprocating motion is preserved, from which a rotary one is easily taken by means of a connecting rod and crank, as in Fig. 4. Yours, &c. G. N.

Geneva, April 3d, 1833.

THE FIRST STEAMBOAT VOYAGE.—We feel gratified at being enabled to lay before our readers a letter from ROBERT FULTON, giving an account of his first trip by steam up the Hudson river. It is an extract from a Philadelphia paper of 1807, and can hardly fail of being read with interest. "When Fulton started upon this first voyage, he stood almost alone in his expectations of success. He, however, was sanguine; and could he now revisit the numerous rivers and bays of our country, he would find his expectations more than realized."

NEW-YORK, August 22, 1807.

To Joel Barlow, Esq. of Philadelphia:

My Dear Friend,—My steamboat voyage to Albany and back has turned out rather more favorable than I had calculated. The distance from New-York to Albany is 150 miles; I ran it up in 32 hours, and down in 30 hours. The latter is just five miles an hour. I had a light breeze against me the whole way going and coming, so that no use was made of my sails; and the voyage has been performed wholly by the power of the steam engine. I overtook many sloops and schooners beating to windward, and passed them as if they had been at anchor.

The power of propelling boats by steam is now fully proved. The morning I left

New-York, there was not, perhaps, thirty persons in the city who believed that the boat would ever move one mile an hour, or be of the least utility. And while we were putting off from the wharf, which was crowded with spectators, I heard a number of sarcastic remarks: this is the way, you know, in which ignorant men compliment what they call philosophers and projectors.

Having employed much time and money and zeal in accomplishing this work, it gives me, as it will you, great pleasure to see it so fully answer my expectations. It will give a quick and cheap conveyance to merchandise on the Mississippi, Missouri, and other great rivers, which are now laying open their treasures to the enterprize of our countrymen. And although the prospect of personal emolument has been some inducement to me, yet I feel infinitely more pleasure in reflecting with you on the immense advantage that my country will derive from the invention.

However useful this may be, it is not half so important as the torpedo system of defence and attack; for out of this will grow the liberty of the seas; an object of infinite importance to the welfare of America, and every civilized country. But thousands of witnesses have now seen the steamboat in rapid movement, and they believe; they have not seen a ship of war destroyed by a torpedo, and they do not believe. We cannot expect people in general will have a knowledge of physics, or power of mind sufficient to combine ideas, and reason from causes to effects. But in case we have war, and the enemy's ships come into our waters, if the government will give me reasonable means of action, I will soon convince the world that we have surer and cheaper modes of defence than they are aware of.

Yours, &c.

ROBERT FULTON.

List of English Patents granted between the 20th of January and the 21st of February, 1833.

John M'Curdy, of Southampton-row, for certain improvements in machinery for acquiring power in rivers and currents. Partly communicated by a foreigner. To enrol within six months from 22d of January.

Luke Hebert, of Paternoster-row, civil engineer, for certain improvements in machines or apparatus for, and in the process of, manufacturing bread from grain, and the application of other products for another product thereof to certain useful purposes. January 24; six months.

Robert Stephenson, of Newcastle-upon-Tyne, engineer, for certain improvements in the locomotive steam-engines now in use for the quick conveyance of passengers and goods upon edge-railways. Jan. 26; six months.

Edwin Appleby, of Doncaster, iron-founder, for certain improvements in steam-engines. Jan. 29; six months.

Josiah John Guest, of Dowlais Iron Works, Merthyr Tidvil, Esq., for an improvement in the process used for reducing iron ore, and other materials containing iron, to what is called in the iron trade finers. Jan. 31; four months.

Luke Hebert, of Hampstead-road, civil engineer, and James Don, of No. 9 Lower James-street, Golden-square, for certain improvements in engines, and other machinery employed in the construction of steam-ves-

sels and steam-carriages, a portion of which improvements is applicable to other purposes. Part of which improvement was communicated by a foreigner. Feb. 21; six months.

Alexander Gordon, of the Strand, engineer, for certain improvements in the boilers or generators of steam or vapor, and in condensing such steam or vapor, and in engines to be worked by steam or vapor for propelling or actuating machinery and carriages on land, and boats or vessels or other floating bodies on water. Being a communication made to him by a certain foreigner. Feb. 21; six months.

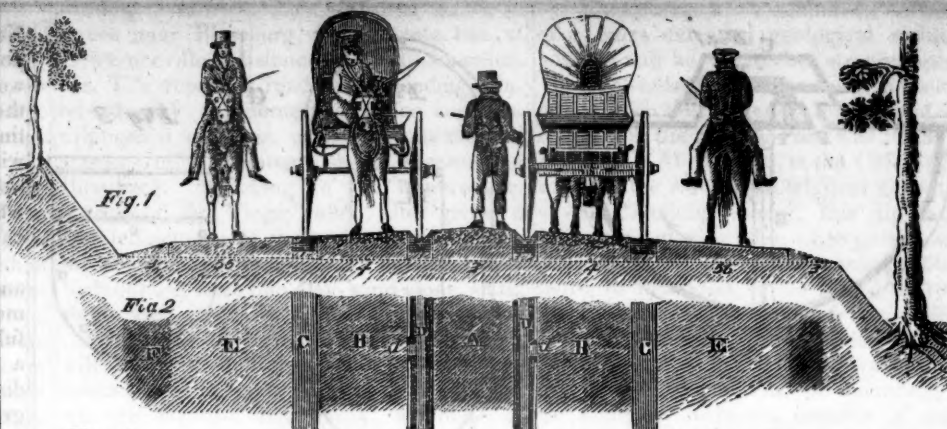
Robert Hicks, of Wimpole-street, Middlesex, Esq., for an improved method of, and apparatus for, baking bread. Feb. 21; six months.

Mr. JNO. S. WILLIAMS, Engineer and Superintendent of the Cincinnati, Columbus, and Wooster Turnpike Company, some time since undertook (gratuitously) to survey the route from Goshen to Columbus, with a view as of ascertaining the best means of constructing a turnpike road thereon. A report has been made by him, and published by the board of directors, from which we learn that the estimated amount of forming a M'Adamized road the distance of 81 miles, would be an expense which Mr. W. doubts the propriety of incurring. Mr. W. enters into a detailed statement to show that wood can be substituted for stone in the improvement of roads, and gives instances, gathered from answers to interrogatories put to several engineers, of the durability of causeways so constructed, from which it appears that good timber laid in clay, and partly covered, will last from 20 to 30 years. From the estimates made by Mr. W. it appears that to cover a road with timber hewn a foot square and covered with earth, of 20 feet wide only, the expense would be \$257,419 80. This plan also is considered too expensive, and Mr. W. inserts a proposition for a track road, constructed of timber (see plate), the advantages of which he thus describes:

"It becomes necessary to inquire in what way timber, which is so plenty, and appears to last well, can be disposed of to our advantage. My reflections upon this subject have brought me to believe that timber hewn flat and laid in ways or tracks lengthwise of the road, to bear the pressure of wheels, would insure the end desired. The method that I believe to be the best is to hew and lay four ways or tracks, two quite flat, say one foot on the face, and two furrowed or guttered so as to receive the near wheels of all waggons and carriages.

"These tracks ought to be laid about five feet apart from centre to centre. The gutter or furrow made to receive the near wheels of carriages should be about 3 inches deep, and say 4 inches flat in the bottom, the tops being 6 or 7 inches open. This would receive the wheels of all or most waggons. The centre of this track, laid say 5 feet from the centre of its fellow track, which is a foot on the face, would give such a diversity of width, that while the near wheel is kept in the furrow the off wheel would be on the other track, notwithstanding a small diversity in the width which exists between the wheels of different waggons.

"The face of the outer or off track should be laid on a level with the bottom of the furrow in



the near or inner tracks, and the horse path should be gravelled or M'Adamized on a level with the face of the outer track, and rise gently across the horse path towards the near track for the purpose of draining, the depth of the furrow admitting of this circumstance.

"The two near tracks ought to be laid about four feet apart, from centre to centre, and gravelled or M'Adamized between them, for what I shall call the driver's path. This path would accommodate footmen, horsemen, and teamsters, or, if thought best, a horseman's path may be constructed on each side of the outer or off tracks. Four feet for the driver's path, and five feet each for the horse paths, together with six inches on each side for the surplus width of the outer tracks, make a total width of fifteen feet from out to out of the two carriage ways; eight and a half feet on each side would be the width of summer road and ditch in a 33 feet graduation.

"For the purpose of draining, these tracks should be inclined not less than half a degree. In fact, no part of any M'Adamized road ought to be less. The near or guttered tracks might be changed for a few inches at the foot of the slopes from the guttered to the flat form without any inconvenience to the travel: this would form a side drain across the horse-paths. The outer tracks being flat would present no obstacle to draining.

"By carriages keeping always to the right, the power of this kind of road I conceive would be much greater than that of common roads, for more carriages could operate upon them without obstruction or danger, than if allowed to run promiscuously.

"As respects the ease of travelling, a road thus constructed being perfectly smooth and side-wise level, I conceive it would be superlative. It is observable, in the travelling of M'Adamized or other roads, that a great difficulty exists in keeping the wheels of waggons out of the ruts or furrows that wear, or accident has made in the road. There seems to be a propensity or habit in horses to follow each other, and consequently to run in the same track. In this order they are the most easily driven. This very propensity or habit of horses is a drawback of twenty per cent. upon the permanence of M'Adamized covers. It is our privilege, if not our duty, to turn if possible this propensity to our advantage: thus, in such a road as the one under consideration, little or no trouble would be necessary to keep the wheels steadily and regularly in the tracks. When snow would cover the road and thereby render the tracks obscure, the chances would be in favor of the road being frozen so as to bear in any part, and render the keeping of the tracks unnecessary.

"In case a carriage of speed should overtake one of burthen, it will be easy for it to mount over the driver's path and run in the left hand

track until an opportunity appears for it to resume its proper one: the driver's path being raised but three inches.

"As to the lastingness of timber thus situated, I am of opinion it would be good. The earth or clay would completely envelope every stick its whole length, except the upper surface, by which its native juices would be completely extracted, particularly if the timber be large enough to cut through the heart. As to the capability of wood to sustain the travel for a great length of time, my experience in this particular is too limited to assert positively, but from what observations I have been able to make, I am of opinion that it would compare better with broken stone than might at first be imagined. The sides of the furrows in the near tracks would suffer abuse; but when we consider that they would be three inches thick at the top, and four at the bottom, and that as they would wear they would give more room, and thereby be less likely to wear, it is not unreasonable to conclude that good timber well laid, under an ordinary travel, would last on an average of fifteen years. The near tracks might not last more than ten, while the outer or off tracks would last twenty. There being little or no jolting, or even jarring, the great source of wear in common roads, the track-road would out-last all others, respect being had to the materials of construction.

"In regard to the cost of constructing, and the perpetuity of such a road, it may be well to observe that at present, on a great portion of the line, timber sufficient for the tracks abounds within 30 to 50 feet of the centre; a great portion of which must be removed before the line can be improved in any manner. On no part will timber have to be moved far from its native to its destined locality, and as regards perpetuity, the prospect is more favorable than that of M'Adamized roads in a country where lime-stone, the material of construction and repair, is barely sufficient for other branches of improvement, during this and coming ages. Good oak and other timber can at all times and forever be cultivated upon the sides of the road, rendering it at once beautiful, pleasantly shady, and perpetual: advantages by no means attending M'Adamized roads, which will forever continue to exhaust the present existing material without there being a possibility of a renewal. This would in future prove to be a serious disadvantage in districts of country but scantily supplied at present.

"The horse paths, the driver's path, and the summer roads, might be improved by laying upon them a coat of gravelly earth, which abounds in many parts of the country destitute of stone, and can be procured and laid at a very small cost.

"Gravelly earth will present an even and pleasant road to travel, if the weight of loaded wheels can be kept from it, as is witnessed on the tow-paths of our canals, where constructed of that material. But I would suggest that the horse and driver's paths be M'Adamized to the depth of six inches, which would be amply sufficient for any purposes for which it is intended: under this might be laid, say, six inches of gravelly earth, whenever it shall be found convenient. It might also be proper to gravel, say,

five feet of each summer road, or at least construct the upper surface of them of the most solid earth in the neighborhood. The tracks may be laid of timber, round except the upper surface. It would, however, be better to form them of large, well grown timber, split or cut through the heart: the sides squared, so as to take off the bark and white-wood. These tracks may be of pieces any convenient length, with the ends brought to a determinate thickness, and laid upon a block placed to receive them. The under side of the tracks ought to be straightened or partly flattened, in order to secure a more steady position of them. The earth ought to be closely applied to the bottom and sides, not only to effect this object, but to secure a more speedy extraction of the acid from the wood. The limey quality transferred from M'Adamized horse and driver's paths to the wooden tracks, would be likely to prevent both wear and decay. Where the road is necessarily much curved, it ought to be M'Adamized, and the tracks dispensed with, particularly if good material is convenient, which is almost invariably the case, where your line is crooked. The line from Goshen to Columbus, as will be seen by the map, is laid almost entirely of long straight lines, not more than one mile and eighty-two poles requiring to be M'Adamized, and that where the stone is most plenty. Eighty miles of the line, therefore, is suitable for tracks, which ought first to be laid of squared timber, after which the two inner ones might be guttered or furrowed by machinery propelled by steam or animal power, and moved along the tracks simultaneously as the operation proceeds.

"The proposed method of improvement, if found to answer the purposes of traffic and travel, whether it shall last equal to the expectation of its inventor or not, will be found to be one of immense utility, by reason of the cheapness of its first construction, which brings the first cost of improvements to a level with the scanty means of a country newly settled, and as it were yet in the wilderness."

Mr. Williams advocates, with much earnestness, internal improvements of every description: the report is well drawn up, and is of itself evidence that it has been done by a hand well acquainted with the subject upon which it treats. We think, however, that in speaking of the probable advantages to be derived from systems that he recommends, he is rather too sanguine of the result. We cannot do better than let Mr. W. speak for himself:

"Any state or nation that would adopt a general system of internal improvement by roads and canals would do away sectional jealousy. The interests of the different parts would become one by the common course of intercommunication. Inter-marriages would take place, and a general diffusion of acquaintanceship, and a union of interest would be the result. At the same time that wealth, the source of power, would be thus increased, power itself would follow its consequence of the system. The means of intercourse would give a facility to the transportation of men to defend the country, and stores to render those men comfortable; munitions of war, too, would reach every point to render formidable those forces, which with the greatest facility could be conveyed so as to render the effective force double to what the same means would be without it. This system would at once unite the citizens as if they inhabited but a small island, while at the same time they would be as strong as if they filled a vast territory."

Such a state of things is very desirable, and perhaps may occur, but we think it not likely in our time. Mr. W. concludes the report thus:

"The hand which guides this pen was among the first to fell the trees of the interminable territorial forest, to let the sun see the soil that now in the state of Ohio presents so many pleasing subjects for contemplation and reflection."

Affording another instance that, in a free country like this, industry and talent will always be duly appreciated, and in most cases amply rewarded.

[Since the above was in type we have received a communication from Mr. Williams, by which we learn that the Company have determined to construct eight miles of road on this plan.—ED. MEC. MAG.]

Abstract of the Charter of the New-Jersey Railroad and Transportation Company.—Sections 1st, 2d, 3d, 4th, and 5th, simply give the name of the Company; the amount of capital, which is \$750,000, with liberty to double it, and the shares to be \$50 each; the names of the commissioners and the place of receiving subscriptions; the number of directors and the manner of electing them; and the power to call in instalments of \$5 each, and of appointing a president, engineers, treasurer, &c.

Sec. 6, Authorizes the directors to survey, lay out, construct and repair, a railroad not more than 66 feet wide, with as many sets of tracks as they think proper, from such point in the city of New-Brunswick as shall be agreed on by them and the corporation of that city, "through or near the village of Rahway and Woodbridge, within half a mile of the market-house in Elizabethtown, and through Newark, by the most practicable route, and thence contiguous to or south of the bridges crossing the Hackensack and Passaic rivers, crossing Bergen Ridge south of the Turnpike road, to some convenient point, not less than 50 feet from high water mark on the Hudson river, opposite to the city of New-York." It further authorizes the Company to make a branch road to any ferry on the Hudson opposite to New-York, which branch shall join the main road within 100 yards of the Hackensack river, if the main road cross the river within 100 yards of the present bridge, but if it crosses it more than 100 yards from the bridge, then the branch shall join it at such point west of the river as shall be best calculated to give to the ferries equal facilities of communication with Newark, and if the Company do not construct such branch as soon as the main road from Newark to the Hudson is made, then the owner of the ferry is authorized so to do, with the same power and under the same liabilities with the Company. The Company are also authorized to enter upon and take possession of any lands necessary for the site of the road, and if the owner of such land and the Company do not agree on the price, either of them may (at the cost of the Company) apply to a judge of the Supreme Court, and have three commissioners appointed from the county in which the land lies, to estimate the damage arising to the owner from the occupancy of the land, and also from removing, making and maintaining fences: and if the owner is dissatisfied with the appraisal, he may appeal to the Common Pleas and have his damages estimated by a jury, but will recover no costs unless he recovers more than the appraisal.

Sec. 7, Empowers the Company to build bridges, fix scales and weights, raise embankments, &c. and to take materials therefor, subject to compensation, to be ascertained as in the case of lands.

Sec. 8, Authorizes the Company to regulate the time and manner of transporting goods and passengers, the description and formation of carriages, and the rates and modes of collecting tolls, which are not to exceed the following rates, viz.: for empty carriages weighing less than a ton, 2 cents a mile; more than one and less than two tons, four cents; above three tons, eight cents, and in addition thereto six cents a ton for goods and 3 cents for each passenger per mile; Provided, that no farmer of this State shall pay toll for carrying the produce of his farm in his own waggon not weighing more than a ton, when such produce does not weigh more than 1,000 lbs., but shall pay only for carriages as if empty. It also authorizes the Company to construct branches to any landing on or near the Passaic, not north of Belleville, and to any place in the township of Newark.

Sec. 9, Requires the Company to commence the road at Jersey City and New-Brunswick, within two years, and to complete the whole route in five years, under penalty of forfeiting their charter.

Sec. 10, Authorizes the company to purchase any turnpike road and bridges on the route, and reserves to the State and individual stockholders of the Newark Turnpike Company the right at any time within two years, from the opening of the books, either to take an amount of the stock of the company equal to the fair market value, at the time of passing the act of their stock, or to sell out the same to the company, at that value, which is to be estimated by the Chancellor, in case of disagreement; but the Newark turnpike, and the bridges over the Raritan, Passaic, and Hackensack, are to be kept as public roads, without obstruction.

Sec. 11, Empowers the company to cut sluices and make embankments, to prevent the railroad from being overflowed by the tide.

Sec. 12, Makes it lawful for the company to carry the railroad across roads and streams, not impairing their usefulness, and if they cross any navigable river, they may build a bridge, with a draw not less than thirty feet wide, and are bound to keep a light during the night, and open the draw when necessary, under penalty of ten dollars for every neglect.

Sec. 13, Authorizes the company to build or purchase carriages for the transportation of persons or property; but they are not allowed to charge more than six cents a mile for transporting passengers and each ton of goods, nor more than \$1.25 for carrying passengers from New-York to New-Brunswick.

Sec. 14, Empowers the company to hold real estate at the commencement and termination of their roads, not exceeding 3 acres at each place, and build thereon ware-houses, stables, machine shops, &c. and to build on the Hackensack and Passaic rivers such bridges, piers, wharves, &c. as they shall think necessary for the full enjoyment of all the benefits conferred by the act.

Sec. 15, Imposes upon any person who shall wilfully injure the road, or any of the buildings or works of the company, a penalty of three times the amount of the damages done.

Sec. 16 and 17, Gives the State the right of purchasing the road, at a price to be ascertained in the mode marked out by said sections, after the expiration of the charter.

Sec. 18, Imposes an annual tax of 1-4 per cent on the capital paid in, and exempts the road from all other taxes; and if the railroad should be continued across the State, a transit duty of 8 cents for each passenger, and 12 cents for every ton of goods, transported over the whole road, is to be paid to the State.

Sec. 19, Empowers the directors to call special meetings of the stockholders, for any purpose they may see fit; and Sec. 20 requires of the company to make and repair bridges or passages, wherever the railroad crosses any highway, or intersects a farm.

Sec. 21, Reserves to the State the right of taking 1/4th of the Stock. Sec. 22 declares it to be a public act, and Sec. 23 restricts the use of the funds of the company to the purposes of the act.

It is required by the supplement to the act relative to the Delaware and Raritan Canal, and Camden and Amboy Railroad, "that it shall be the duty of the said companies to construct a lateral railroad from a suitable point on said road, at or west of the village of Spotswood, to a suitable point or points in the city of New-Brunswick, which said lateral road shall be completed as soon as any railroad shall be made from the said city of New-Brunswick to the Hudson river"; consequently this branch road is required to be made as soon as the New-Jersey Railroad is completed to New-Brunswick, and by this means whenever the New-Jersey Railroad is finished, there must be a complete thoroughfare by railroad through the centre of the State from New-York to Philadelphia.

Mr. Knight

Pale North Star

*Dear Sir I am very sorry
for the mistake of
Mr Atkinson about the
point - but if he has
still not sent it, Mr
S. B. St. John, St
Louis, Ind. - painter
will give it to
any time you send in
my name - Very truly
H. Brougham*

From the New-York Mechanics' Magazine.

[We make no apology for introducing to the notice of our readers a fac simile of the writing of HENRY BROUGHAM, satisfied that it will gratify many who admire the character and talents of that distinguished individual. We shall occasionally insert engravings of the autographs of men distinguished for their literary and scientific attainments, accompanied (if possible) by a short sketch of their public character.]

SKETCH OF HENRY BROUGHAM.

[Compiled from authentic sources.]

We have not forgotten that this most distinguished individual has been raised to the Peerage, and has received the highest honors in his profession that his sovereign can bestow upon him, but we prefer to speak of him in the simple name, which, like those of GEORGE WASHINGTON, JAMES WATT, ROBERT FULTON, and many others, can never receive additional lustre by any title. He was born in Westmoreland, where his mother still resides, and at an early age was called to the bar in Scotland, where he practised as a barrister for several years, devoting a considerable portion of his time to literary pursuits. It is only with his public character, whether as a statesman, an author, a barrister, or a judge, that we have to do, and in each of these has he shone with a splendor that will long cause the name of Henry Brougham to be revered and respected.

As a barrister, Mr. Brougham enjoyed an extensive practice for a series of years, particularly on the Northern circuit, being generally retained by the defendant, and had, in most cases, to cope with the legal knowledge and talent of Sir James Scarlett, who, for a long time, was Attorney General for the County Palatine of Lancaster. In defending particular actions for libel, and in vindicating the general liberty of the press,

Mr. Brougham has perhaps appeared to the greatest advantage. In all cases where the liberty of the subject was infringed, his appeals to the jury were exceedingly animated—he seemed, in fact, to enter personally into the feelings of his client. One of his most splendid efforts was at the bar of the House of Lords, where he appeared as Attorney General for the late Queen. The powerful arguments in support of her remonstrance against the introduction of the *Bill of Pains and Penalties* into that house, can never be duly appreciated, even by those who have read them: those only who had the great privilege of being present can form any conception of the energy displayed, and the powers of mind he evinced, on that occasion. The profound attention it commanded from the members is, of itself, alone a sufficient guarantee of its brilliancy.

We can bear testimony to the correctness of the following vivid description, written by a gentleman after hearing him for the first time plead at York Assizes:

"He rose with an expression of staid gravity and collected power. His exordium was deliberate and impressive, and I was particularly struck with the fixedness of his gaze. He seemed not so much to look at the jury as to look *through* them, and to fix his eye upon them, less for the purpose of seeing how they felt, than to rivet their attention, and as it were to grasp their minds by the compass of his own. The small gray eye, which in his quiescent state reveals to you nothing, now became keen and strong as the eagle's. The steadfastness of his look, together with the calm and masterly manner in which he disposed of the preliminary considerations, reminded me of an experienced general quietly arranging his forces, and preparing to bear down in overwhelming strength upon a single point. His voice became loud and commanding, his action animated, and his elo-

quence was poured forth like a torrent, strong, copious, and impetuous. He first took extensive views, and laid down general principles applicable to the case: then he applied these to the particular facts, examining the testimony of each witness, and showing its weakness, the suspicion attaching to it, and its inconsistency, either with itself or with the other parts of the evidence. He displayed as much skill in exposing and concentrating the weakness of the opposite side, as in exhibiting his own strength. He lashed some of the witnesses without mercy, and covered them with his sarcasm. His sneer was terrible. He then unfolded his own case with great clearness, and made it appear that he had evidence which would quite overthrow that of the other side, and leave not the shadow of a doubt on the minds of the jury. The case being one which required both physical and metaphysical observations, from involving a question of bodily and mental derangement, Mr. Brougham's universal knowledge enabled him to treat it in a very luminous manner: he seemed to combine the professional skill of the physician with the just and profound views of the philosopher. He gave a most striking picture of the diseased and doating testator, coloring it with almost poetical brilliancy, and bringing out the features with a breadth and force peculiarly his own. He gathered his illustrations from nature and from art, and levied contributions on science and literature. Every thing in the manner and matter of the orator bespoke power—the strength of his voice, the sweep of his arm, the piercing glance of his eye, his bitter scorn, his blazing indignation, the force of his arguments, the inevitable thrust of his retort, and the nervous vigor of his style. He despises the graces of elocution, but seems to have unlimited confidence in the strength and resources of his intellect. In short, this was the highest oratorical achievement it has fallen to my lot to hear, and it was of course successful, though it was not one of his greatest efforts."

As a statesman, Mr. Brougham has always appeared uniform and consistent, never swerving from his avowed principles when he entered public life. His earliest efforts as a British senator were distinguished by the same regard to the rights of individuals, and the liberties of the country, which he has uniformly manifested to the present time. Nor was he then less firm in opposition to what he deemed the encroachments of the crown, and the extravagances and abuses of the government, than he has proved since. His bold denial of the sovereign's right to the droits of the Admiralty, in 1812, will not soon be forgotten; and, though he failed in his motion on that point, few can help wishing that he had been able, during a season of enormous expenditure, to bring that prolific fund in aid of the exchequer.—We cannot deny ourselves the gratification of extracting from a speech of Mr. Brougham in 1816, on the treaty of the Holy Alliance. After wondering at the sudden resolution of three great continental powers to defend Christianity when it was not attacked, and suspecting some secret political objects in this new crusade, he said—"I always think there is something suspicious in what a French writer calls '*les abouchemens des rois.*' When crowned heads meet, the result of their united councils is not always favorable to the interests of humanity. It is not the first time that Austria, Russia, and Prussia, have laid their heads together. On a former occasion,

after professing a vast regard for truth, religion, and justice, they adopted a course which brought much misery on their own subjects as well as those of a neighboring state—they made war against that unoffending country, which found little reason to felicitate itself on its conquerors being distinguished by Christian feelings. The war against Poland, and the subsequent partition of that devoted country, were prefaced by language very similar to that which this treaty contains, and the proclamation of the empress Catharine, which wound up that fatal tragedy, had almost the very same words."

Among the most prominent of his later efforts in the House of Commons, may be mentioned his lucid speech on his introduction into that house of a "Bill to amend the State of the Laws;" it occupied nearly eight hours in delivery, and so arrested the attention of a full house, that the newspapers of that time remarked that they never remembered the house so orderly. Until the year 1828 Mr. Brougham was returned to Parliament for one of those decayed boroughs which were under the immediate influence of some of the Whig peers. In that year a vacancy occurred in the representation of Yorkshire, (the largest county in England,) and he was, without solicitation on his part, triumphantly returned to fill that vacancy, although he had no connection whatever with his new constituents. He had scarcely taken his seat when he announced that it was his intention to bring forward a bill for Parliamentary Reform. A day or two previous to the one that was arranged for the introduction of that bill, the Duke of Wellington's Tory administration was dissolved, and his Majesty called EARL GREY to his Councils. The immediate consequence of that step was the elevation of Mr. Brougham to the Peerage, under the title of Baron Brougham and Vaux,* and his appointment to fill the joint offices of *Lord High Chancellor of England*, and *Speaker of the House of Lords*. The influence and power that was thus placed under his control he has used in a manner that does honor to his heart, and is quite consistent with the principles he had always advocated, in Parliament and out of it, during a series of years. Among his earliest efforts, after his installation into office, may be mentioned *his own* motion for reducing very considerably the emoluments attached to the offices he held—his sweeping reformation of the abuses of the Bankruptcy Laws—his unceasing efforts to purge the vices of the court over which he was placed to preside—his strenuous exertions in the holy cause of Parliamentary Reform, the triumph of which is mainly attributable to his and Earl Grey's inflexible and unbending political honesty—his never-tiring advocacy of the abolition of the Slave Trade—and his arguments, whenever opportunity presented itself, (and they continually occurred in Parliament,) in favor of any and all measures that had a tendency to promote the amelioration or removal of civil and religious disabilities. When it is known that during the whole period these measures were progressing, he had almost daily to attend Cabinet Councils, of frequently three or four

hours' duration, yet he did more in one short session to bring up arrears of business in the Chancery Court, than had ever previously been done, having left but one cause undecided—his predecessors frequently leaving two or three hundred,—our readers cannot but wonder at the vast power of mind and versatility of talent displayed in one individual. Nor is this all; for while thus engaged in Politics, Legal Reform, Parliamentary Reform, the duties of his office in Parliament, and the due performance of his judicial functions, it is really almost incredible that he could find time to attend to literary pursuits; yet it was so. He acted as Chairman for the *Society for Diffusing Useful Knowledge*, and very frequently attended to the duties imposed upon him by that committee; and by virtue of his office, was at the head of the *London University*, and of the *King's College* also. We now turn with peculiar gratification to notice some of the gigantic efforts he has made in the cause of universal education. His resolute efforts to throw open the corrupt arcana of the most ancient and extensive of the benevolent institutions in his own country, are well known and appreciated by a discerning and grateful public. Nor have they been without success: a commission of inquiry continues to proceed in its necessary work: several great charities have already completely changed their character, and others in fear are beginning to reform themselves.

Who can but witness with pleasure the rapid progress education is and has been making for some years past? Elementary instruction is now so quickly imparting to the great mass of the people, by the most simple and economical means, that whereas in the last generation it was difficult to find a peasant who could read, in the next it must be much more difficult to find one who cannot. This is undoubtedly one of the best signs of the present times. By this the rising age of the lower and lowest ranks are receiving a moral elevation, of which no time, or change, or accident, can deprive them. This must insure the duration of wisdom, the enlargement of liberty, and the propagation of religion, by whatever political changes the frame of society may be shaken.

To HENRY BROUGHAM we are indebted for much of this: amidst his various occupations, wherever popular education was advocated, whether at the Royal Society or at the Mechanics' Institution, he was always foremost in the van.* The great interest he took in founding the London University is fresh in our memory. He was one of the prime movers in getting into successful arrangement the operation now continued with so much success in that establishment. Nor must we omit to notice the great benefits he has rendered to universal education, by planning and forming the *Society for the Diffusing of Useful Knowledge*; among the committee of which will be found men of all political parties, of influence and wealth, and great talent, combining their efforts to spread knowledge throughout the world.

As an author, HENRY BROUGHAM has long

been familiar with the reading public. At a very early age he communicated some scientific articles for *Dr. Brewster's Edinburgh Cyclopaedia*, and ever since the establishment of the *Edinburgh Review* he has been a zealous supporter of that work, and some of the most profound and ingenious articles that have appeared in that work were from his pen. Nor has he confined his contributions to the *Edinburgh Review*. He is known to be the author of several papers in *Nicholson's Journal*, and in the *Philosophical Transactions*—papers which discover the varied nature of his studies, and how well he has furnished his mind with the diversities of natural and artificial, as well as legal and political science. The chief entire work which bears his name is entitled 'An Inquiry into the Colonial Policy of the European Powers.' In addition to these, a masterly pamphlet on the state of the nation, and several speeches on special occasions, which have appeared in print, deserve to be mentioned among the samples of his literary pre-eminence. In these and other productions of his pen, he shows a capacity of mind which takes in any subject, however large its dimensions or minute its details. In all his works, he is evidently much more intent upon matter than manner; yet few men are gifted with clearer perceptions, or capable of more rich and appropriate illustrations, especially from the first rate classics, with whose best passages he seems perfectly familiar.

His last avowed production is the admirable treatise on the Objects, Advantages, and Pleasures of Science, a part of which we have already transferred into our columns.

We shall conclude this imperfect sketch by a short extract from a lecture delivered at the Jefferson Medical College, by Professor Paterson, of Philadelphia, in the sentiments of which we fully concur. He says, after alluding to distinguished men in Europe, "it has been my good fortune to have associated with many other characters, who, with justice, are admitted to be the most illustrious of her sons. Before I knew them, I confess the vastness of their intellects loomed on my imagination. They appeared, at a distance, more than MORTALS; but, when known and examined in person, I found them merely MEN, differing in no very remarkable features of intellect or character, from the distinguished individuals with whom I have been associated, in my native city. There is only one man I have ever known, who, from the towering height of his mind, and from the rich and exhaustless stores of his information, has realized all my imaginings of a great man—a man differing from, and far exalted, by capacity and acquirements, above all others. This man is HENRY BROUGHAM, the present Lord Chancellor of England. He, indeed, seems to be almost more than mortal."—[ED. MEC. MAG.]

CLAY FOR SCULPTORS.—Sculptors, who prepare their models in clay, have frequently occasion to leave their work for a long time unfinished, and in such cases often experience much difficulty from the drying and shrinking of the material. It is well to know that by the addition of ten to fifteen per cent. of muriate of lime, well worked or kneaded into the clay, it will be preserved for almost any length of time in a moist state, and fit for a renewal of the work without any preparation.—[Jour. des Connais. Nov. 1832.]

* When it was made public that Mr. Brougham was to be made a member of the upper house, solicitations were made from many with whom he had been connected in promoting various laudable objects, that he would still retain the name of Brougham, as the association of it with institutions having for their aim the welfare of mankind seemed so natural, that it would be to them a matter of great regret to be deprived of it.

* Henry Brougham and his friend, Dr. Birkbeck, were among the first who responded to the call when a proposition was made to establish the *London Mechanics' Institution*; their exertions and their example did much to promote its success. They contributed liberally to its funds, and, indeed, unless such men had taken the matter in hand, we have reason to believe the attempt to found such a society, at that time, would have been worse than fruitless.

ATTRACTION.—By attraction we mean the tendency that bodies have to approach each other. And first, in elucidation of this subject, if you throw a stone, or shoot an arrow into the air, instead of proceeding according to the direction in which you send it, you see its course is quickly spent, and it returns to the earth with a velocity or swiftness proportioned to its bulk or weight. Now, it is easy to conceive that the resistance of the air may stop it in its progress: but why should it return? Why should not the resistance of the air stop or impede it in its return?

The answer you will think very plain—it is its *weight* that brings it back to the earth, you will say, and it falls because it is a heavy body. But what is weight—or why is it heavy? It is, in truth, the earth that draws or *attracts* the stone or the arrow towards it; this overcomes the force with which you sent it from you at first, and the resistance which the air would otherwise make to its falling.

To make this plainer, if you drop a little water, or any other liquid, on a table, and place upon the liquid a piece of loaf sugar, you will see the water or fluid ascend, or in vulgar language, be sucked up into the pores of the sugar: that is, the one attracted by the other. Again, if you take two leaden bullets, and pare a piece off the side of each, and make the surface, where you have taken off the piece, exceedingly smooth, and then press the two balls together, you will find them adhere strongly together, that is, they are mutually attracted by each other.

If you take a piece of sealing wax, or amber, with a smooth surface, and rub it pretty quickly upon your woollen stocking till it gets warm, you will find that if straws, feathers, hairs, or any very light bodies, are brought within the distance of from an inch to half an inch of it, these light bodies will be drawn to the sealing-wax or amber, and will adhere to it. Thus, in philosophical language, they are attracted by it.

This last effect is very similar to what may be observed of the magnet or loadstone, or what is often performed by the little artificial magnets, which are commonly sold, and which afford a very rational and pretty amusement to young persons.

But what is a still more surprising effect of attraction, if we take two phial bottles, which we number 1 and 2, and fill each of them with a fluid perfectly colorless, we see they appear like clear water: on mixing them together, we will observe the mixture becomes perfectly black. We take another phial, No. 3, which contains also a colorless fluid, and we pour it into this black liquor, which again becomes, we see, perfectly clear, except a little sediment which remains at bottom. Lastly, we take the phial, No. 4, containing also a liquid clear like water, and by adding a little of it, the black color we see is restored.

All this appears like magic, but it is nothing more than the effect of attraction. Philosophy keeps no secrets, and we will explain it. The colorless liquor in the phial No. 1 is water, in which bruised galls have been steeped or infused; that in No. 2 is a *solution of copperas* (called by chemists *sal martis*, salt of steel,) in plain terms, it is water in which common copperas, or green vitriol, is dissolved. The iron which this salt (green vitriol) contains has a strong attraction for

the gall water, and when they are mixed together they unite, and the mixture becomes black; in fact, is made into ink. But when the phial No. 3, which contains aqua fortis, (or the nitrous acid, as it is called by the chemists,) is poured in, the iron, which has a stronger attraction for it than for the galls, unites with it, and having left the galls, the liquid is again clear.

Again, the phial No. 4 contains salt of wormwood, in a fluid state, which the chemists call an *alkali*. The aqua fortis is nitrous acid, therefore, has a stronger attraction for this alkaline matter than it has for the iron; it therefore drops the iron, which again unites with the matter of the galls, and you see the fluid resume its black complexion. These several kinds of attractions, which we have now mentioned, philosophers have arranged under five distinct heads. The first, that we mean of the stone or the arrow falling to the ground, they have called the attraction of *gravity*, or gravitation.

The second, that of the two leaden balls adhering together, and of the water ascending into the pores of the sugar, they call the attraction of *cohesion*, and also capillary attraction. The third is *electrical* attraction, because the sealing wax, when chafed or warmed by rubbing against your stocking, is in an electrified or excited state, like the glass cylinder of an electrical machine when rubbed against the cushion, and therefore attracts the hair, feathers, &c. The fourth is the *magnetic* attraction; and the fifth is called *chemical* attraction, or the attraction of combination, because upon it many of the processes and experiments in chemistry depend; and because by this means most of the combinations which we observe in salts, the ores of metals, and other mineral bodies, are effected.

On the two first of these species of attraction only we shall at present enlarge, because it will be necessary to treat of the others when we come to investigate those branches of science to which they properly belong.

First, therefore, of gravitation. It requires no experiment to show the attraction of gravity; for since the earth is in the form of a globe, it is manifest that it must be endued with a power of attraction to keep upon its surface the various bodies which exist there, without their being hurled away into the immensity of space in the course of its rotary diurnal (or daily) motion. The earth has, therefore, been compared to a large magnet, which attracts all smaller bodies towards its centre. This is the true cause of *weight* or *gravity* (which mean the same thing.) All bodies are drawn towards the earth by the force of its attraction, and this attraction is exerted in proportion to the quantity of solid matter which any body contains. Thus, when two bodies are placed in opposite scales, and we see one preponderate, we say it is heavier than the other; in fact, that it contains a greater quantity of solid matter: for as every particle of matter is attracted by the earth, the greater number of such particles any body contains, the more forcibly it will be attracted. We know, by experience, that the *weight* or *gravity* of a body or thing is not in proportion to its bulk. A bullet of lead, of the same size as one of wood, or of cork, will weigh infinitely heavier, and one of gold would be heavier still. It is reasonable, therefore, to suppose that the ball of gold, or of lead, contains a greater number of solid particles, which are united

or pressed closer together than those of the wood or cork, which is more porous, and its particles lie less closely compressed or compacted together. This, then, is what is meant by *specific gravity*, that one body contains more solid particles within a certain compass, size, bulk, or space, than another.

It is one of the laws of nature, discovered by Newton, and now received by all philosophers, that every particle of matter gravitates towards every other particle: which law is the main principle in the Newtonian philosophy. The planets and comets all gravitate towards the sun, and towards each other, as well as the sun towards them, and that in proportion to the quantity of matter in each.

All terrestrial bodies tend towards a point, which is either accurately, or very nearly, the centre of the earth; consequently, bodies fall every where perpendicular to its surface, and therefore on opposite sides in opposite directions. As it acts upon all bodies in proportion to their quantities of matter, it is this attractive force that constitutes the weight of bodies.

The cause of gravity is totally unknown. Many theories have been invented to account for it, but they have been all mere hypothesis or conjecture, without any solid foundation.

II. The *attraction of cohesion* is observable in almost every natural object, since in reality it is that which holds their parts together. It has been already demonstrated, in the experiment of the two leaden balls, and the same effect will be proved by pressing together the smooth surfaces of two pieces of looking-glass, particularly if a little moisture is dropped between them to exclude the air more perfectly. The adhesion or tenacity of all bodies is supposed to depend on the degree of this attraction which exists between their particles; and the cohesive power of several solid substances has been ascertained by a course of experiments, in which it was to put to the test what weight a piece of each body of one tenth of an inch diameter would sustain, and the weights were found to be as follows:

Raw flax, . .	37 lbs.	Ash, . . .	50 lbs.
Horse hair, .	45	Zinc, . . .	18
Raw hemp, .	46	Lead, . . .	29½
Raw silk, . .	53½	Tin, . . .	40½
Fir wood, . .	23	Copper, . .	299
Elm, . . .	35	Brass, . . .	360
Alder, . . .	40	Silver, . . .	370
Oak, . . .	48	Iron, . . .	450
Beech, . . .	50	Gold, . . .	500

This cohesion is also visible even in fluid substances, the particles of which adhere together, though with a less degree of tenacity than solid bodies. "The pearly dew" is a well known phrase in poetical language, and the drops of rain, or of dew, upon the leaves of plants, assume this round or pearly appearance by the attraction which the particles have for one another. In the same manner quicksilver, if divided into the smallest grains, will appear round, like small shot, because the particles attract each other equally in every direction, and thus each particle draws others to it on every side, as far as its power extends. For the same reason, two small drops of quicksilver, when brought near to each other, will seem to run together and unite.

Some bodies, however, in certain circumstances, appear to possess a power the re-

verse of attraction; and this is called in philosophical language, *repulsion*.

On the Stomach Pump—Method of dislodging Poison from the Stomach without it, &c.
By Dr. ARNOTT.

A small pump, called the *stomach pump*, has lately been used in medical practice, for removing poisons from the stomach in cases where the action of vomiting could not be excited. It has already saved many lives. It resembles the common small syringe, except that there are two apertures near the end, instead of one, which, owing to valves in them, opening different ways, become what are called a *sucking* and a *forcing* passage. When the object is to extract from the stomach, the pump is worked while its sucking orifice is in connection with an elastic tube passed into the stomach, and the discharged matter escapes by the *forcing* orifice. When it is desired, on the contrary, to throw cleansing water, or other liquid, into the stomach, the connection of the apertures and the tubes is reversed.

As a pump may not be always procurable when the occasion for it arises, the profession should be aware that in many cases a simple tube will answer the purpose as well, if not better. Such a tube being introduced, and the body of the patient being so placed that the tube forms a downward channel from the stomach, all fluid matter will escape from the stomach by the tube, as water escapes from a funnel by its pipe; and if the outer end of the tube be kept immersed in liquid, there will be during the discharge a syphon action of considerable force. On then changing the posture of the body, water may be poured in through the tube to wash the stomach, and may by the same channel be again discharged. Such a tube, made long enough, might, if desired, be rendered a complete bent syphon, the necessary preliminary suction being produced by a syringe, or by the mouth of an assistant, acting through an intervening vessel.

But there is a still easier mode than either of these now described, of dislodging poison from a torpid stomach, *viz.* merely to place the patient so that the mouth shall be considerably lower than the stomach,—as when the body lies across a chair or on a sofa, with the face near the floor,—and then, if necessary, to press on the stomach with the hand. The cardiac orifice opens readily in such a case, and the stomach is inverted like any other inverted vessel.

Useful as the pump may prove upon occasions, in evacuating the stomach, its more ancient office of injecting the enema is still the more important, and recent experience seems to show that such injection may become a remedy of more extensive utility than had yet been suspected. From an erroneous opinion, that what had been called the *valve of the cæcum* acts as a perfect valve, allowing passage downwards only, few practitioners have ventured to order much liquid to be injected, for fear of overstretching the lower part of the intestine; and the possibility of thus relieving, by injection, disease situated above the supposed valve, has scarcely been contemplated. It is now ascertained, however, that fluid may be safely thrown in, even until it reach the stomach. Perhaps few, if any, cases of obstruction of bowels could resist the gentle force of penetrating water, so that a mechanical remedy of certain effect may, in many cases, be substituted for the

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

For the Week ending Monday, May 6, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hour.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesday, April 30	6 a. m.	62	30.03	sw by w	light		cloudy—smoky
	10	81	30.08	..	..	{ nw } wsw	fair — ..
	2 p. m.	83	30.07	..	..	NW	.. — ..
Wednesday, May 1	6 a. m.	76	30.05	NE	fresh	..	.. — ..
	10	61	30.15	NE	strong	..	cloudy— ..
	2 p. m.	65	30.21	NNE	moderate	NW	foggy & cloudy—smoky
Thursday, " 2	6 a. m.	60	30.25	NE	..	..	fair — smoky
	10	57	30.20	ESE	..	..	.. — ..
	2 p. m.	53	30.20	SE	..	..	cloudy— ..
Friday, " 3	6 a. m.	52	30.10	SSW	..	..	.. — ..
	10	65	30.05	..	..	..	fair — ..
	2 p. m.	74	30.00	..	..	SW	.. — ..
Saturday, " 4	6 a. m.	69	30.05	SW	..	NW	.. — ..
	10	63	30.12	..	..	..	.. — ..
	2 p. m.	48	30.25	N	..	..	clear
Sunday, " 5	6 a. m.	54	30.26	NNE—ENE	light	..	.. — ..
	10	60	30.28	S	..	SW	fair — ..
	2 p. m.	56	30.21	..	..	..	.. — smoky
Monday, " 6	6 a. m.	53	30.26	SW—S	faint	WSW	.. — ..
	10	57	30.32	SSE	moderate	..	.. — ..
	2 p. m.	53	30.29	..	..	..	cloudy—rainy—smoky
Tuesday, " 7	6 a. m.	51	30.26	..	..	..	rainy
	10	48	30.22	..	..	..	cloudy
	2 p. m.	54	30.17	N	faint	NNW	.. — ..
Wednesday, " 8	6 a. m.	55	30.19	NNW	light	..	.. — ..
	10	57	30.18	N by W	..	..	.. — ..
	2 p. m.	59	30.19	..	..	..	.. — ..
Thursday, " 9	6 a. m.	54	30.21	..	..	..	fair
	10	49	30.22	NE	faint	SW	.. — cloudy—smoky
	2 p. m.	52	30.25	SSW	moderate	..	cloudy—fair— ..
Friday, " 10	6 a. m.	63	30.20	S	..	..	fair — smoky
	10	57	30.15	SSE	..	..	.. — ..
	2 p. m.	56	30.14	..	..	..	.. — ..

Average temperature of the week, 59.88.
Maximum height of the barometer in April, 30.40—Minimum, 29.49—Range, 0.91.
The observations of winds at the surface, for the month of April, show the following results: From NE. including N. 22°—from SE. including E. 90°—from SW. including S. 63°—and from NW. including W. 23°.

The observations of clouds or higher currents, for the same month, are as follow: From the North-Eastern quarter, 4—from the South-Eastern, 3—from the South-Western, 65— and from the North-Western, 84.

drastic purgatives and pernicious bleedings now used, and often used in vain. From what has been said above of the abdomen and the intestinal canal, it appears that an injection tends to spread itself with singular uniformity over the whole. This tendency may be rendered obvious to sight, by throwing a sheep's intestine, recently extracted, into a bucket of water, and then pumping water in at one end: a stream will issue strongly at the other end, although several feet distant, almost immediately, and without any intermediate part having become very sensibly tense. Of course, in the living body, in cases of spasm or obstruction, the liquid must be thrown in against resistance very gradually.

That case is called *introsusception* of the bowel, in which an upper portion falls, or is received into a portion below,—as one part of the finger of a glove may be received into another part,—and the receiving portion of the bowel, mistaking the received for descending food, holds it fast. This occurrence forms a complete obstruction, and generally proves fatal. Many infants, with irritable bowels, die of it. Now, a copious enema, such as we have described above, is almost a certain cure. The liquid advances until it reaches the part where the portion of gut has been swallowed by gut below; and as it cannot pass without pushing the introsuscepted portion back to liberty, it effects the cure.*

VALUABLE MATERIAL FOR WALKS AND ALLEYS.—A soap-maker not knowing what to do with the black sulphurous residuum of his ley tubs, spread it in a wet state along the alleys of his garden. It soon became stiff and almost impervious to rain; the al-

* It should be remarked, however, that this can succeed only whilst the introsusception is recent. After a time inflammation occurs, and adhesions form between the introsuscepted portion and the portion of bowel in which it is received.

leys were always dry; no grass or weeds appeared on it, but the plants within a few inches of it all died. He was delighted with this discovery of the means of enjoying clean and dry walks without any trouble, having only to put a covering of clean sand over the refuse. Having occasion some time after to repave his yard, he used the soft refuse instead of mortar. It soon hardened and cemented the stones so well, that the heaviest carriages occasioned no disadjustment.—[Jour. des Connais. Usuelles.]

AGRICULTURE, &c.

[From the New-York Farmer.]

AGRICULTURAL FAIR IN NEW-YORK.—By the following resolution of the New-York State Agricultural Society, it will be perceived that a Fair is to be holden in October next. Farmers, and those in any way interested in promoting agricultural improvements, are requested to use their influence to carry the objects into effect.

Resolved, That a fair for the sale of live stock, seeds, and other products of husbandry and of household labor, be held in the city of Albany, on the second Thursday of October next, and one in the city of New-York, on the fourth Thursday of the same month; and that the civil authorities and agricultural societies of those places be requested to make preparations for the holding of those fairs.

STIRRING THE SOIL IN A DROUGHT.—It is an established opinion, that the more the soil is hoed harrowed, and ploughed, in dry weather, the better are plants enabled to withstand the want of rain. The recorded effects of frequently stirring the soil are surprising. Excellent crops have thus been obtained, when prospects were most forbidding. It is asserted that when dry weather occurs in the spring, before the roots have extended far, there is still a greater necessity of more frequent hoeing and ploughing. The reasons assigned are, that more of the moisture in the atmosphere is condensed particularly in the night, and that more air, which is a poor conductor of heat, becomes imprisoned in the soil, and thus prevents the heat from penetrating.

Suggestions relative to Farmers' Work for May.
By the Editor.

SOILING.—It is stated on good authority, that a grass meadow in good heart, mown and eaten green, will, at a rough estimate, produce treble the quantity of milk it would have if pastured, and four times as much as it would have done in the form of dry hay.

SALT.—At this season of the year, when live stock are changed from dry hay to green pasturage, the effect on them is very considerable. Their offal, from being comparatively dry and hard, immediately becomes of a liquid consistency. To prevent this sudden weakening effect, give a little salt dissolved in a little bran or meal and water, which will greatly increase the thriving of the cattle. In Germany portable sheds are put up in the fields for shelter, with salt constantly kept in a suitable vessel. A few quarts of bran wet and salted, and given to cows two or three times a week when they are turned to grass, will yield a great per centage of gain in milk.

IRRIGATION.—Every farmer should have in his yard a cistern, or some similar receptacle for his liquid manure. In our often dry and burning climate, watering grass and other crops would be the means not only of keeping the crops in a growing state until they are supplied with rain, but greatly enrich the land.

KINDS OF CROP.—Farmers should not be guided much in the choice of crops for culture, from the high prices they now bear in market. They may, very probably, by the time they are able to get the crops in market, become reversed in prices. Potatoes, for instance, command a poor price; and for this reason a farmer who has to buy his seed, should plant more potatoes than if they were dear.

WEEDS.—Every farmer should make it a principle of duty to eradicate every useless weed, not only from the injury he may sustain, but from regard to his neighbor and the public. A few seeds from his field may be carried by the wind into those of his careless neighbor, and thus eventually a whole neighborhood become invested.

FRUIT TREES.—Grafted trees should be examined, and the clay or composition fallen off supplied. Useless suckers and side shoots ought to be removed. In some instances, when the suckers have roots, they should be set out for stocks. Young fruit trees, sprouting up about the fields should be taken up and put in the nursery or portion of garden allotted for that purpose.

To have your orchard trees to continue thrifty, particularly young ones, it is advisable to have the ground for one or two feet around the body kept free from grass, every spring manured, and stirred several times in the course of the summer.

ROOT CULTURE.—There are many advantages arising from the cultivation of roots. From not ripening their seeds they are considered not to exhaust the soil as much as those that do ripen them. The soil becomes stirred and comminuted, and thus is fully exposed to the air. Weeds and poor grasses are more effectually destroyed. These crops are very productive. Potatoes averaging from 3 to 4 hundred bushels per acre, and turnips, ruta бага, mangel wurtzel, carrots, &c. from 6 to 8 or 9 hundred. They serve to alternate, and give variety to food for cattle in winter. Turnips are considered the best. The seeds cost but little, are sown with

trifling trouble, require but little culture, remain on the ground but a short time, are eaten by man and beast, and easily preserved over the winter. The seed of the mangel wurtzel is sown early in May, and costs from 75 cents to \$1.25 per pound. Four or five pounds are required to the acre. These raised for seed would, we should suppose, make good returns.

SQUASHES AND PUMPKINS.—No farmer should neglect to have a liberal supply of these. They are of much service in various preparations on the table, as well as feed to hogs and cattle. Raised in hills, on ridges of manure covered lightly with soil, they succeed well, although they generally make good returns on almost any soils. Sometimes a portion of the cow-yard, or where there has been a dunghill, may be profitably occupied, by mixing heaps of sand or soil with the scrapings.

FOREST TREES FROM SEEDS.—Farmers should remember that there are many forest trees raised from seed that will sell well, and that are valuable for timber or fruit. Among these are the juglans squamosa, or shagbark hickory, and the j. regia, or Madeira nut. These trees, when two or three years old, will, in almost any neighborhood, sell for remunerating prices. Early in May is not too late to sow forest seeds.

PREVENTIVES OF INJURY FROM INSECTS.—Many farmers lose many of their crops by grubs and other insects. Cucumber, squash, melon, and pumpkin vines, as well as turnips, are often destroyed by insects. To guard against them, the farmer should be provided with coarse tobacco leaves, soot, dry ashes, and the like.

IMPROVEMENTS.—Every farmer should study out a plan of improving the value of his farm, and should persevere and follow it out, but be careful to avoid undertaking them any faster than he has means and time. If possible, always make the profits of the farm pay for the improvements.

MANURE.—Much has been said about long and short manure. When put on in spring, it is reasonable to suppose that it ought to be in a state of insipient fermentation at least. If not, the plant acquires more or less of its growth before it is sufficiently fermented and dissolved to be of service; and when it is in a state fit to nourish the plant, it produces an unnatural stimulus, at an improper time, causing the plant to run into leaf, straw or wood, when it should form or ripen fruit.

EXPENSIVE LABOR.—Many, after toiling for many years, find their hired help has consumed all their profits. Farmers thus situated should endeavor to alter or vary their plans of management, that they may introduce a system of culture that will be equally productive with less labor. By duly considering all the circumstances in which they are placed, nine times in ten they will be able to make the desired change, without risk.

AGRICULTURAL WORKS.—However well farmers may think they understand their business, yet they would derive benefit from having a work on agriculture, to which they could refer in reference to every operation on the farm. They would always find some hint or suggestion that would be more or less important. The physician, lawyer, and clergyman, think, and justly too, that they can not fill their stations without a library of books for reference. Is farming a calling so much lower than not a single volume is necessary?

Suggestions relative to Gardeners' Work for May. By the Editor.

Not a moment is to be lost this month. No one who is desirous of having his garden well stocked with the best of vegetables, and all in good order, will hesitate to devote the extra time which is requisite to have all his plans and operations carried into full effect.

Beans.—The Dwarf Kidney varieties may be planted throughout this month, and until August, for succession crops. Pole beans may also be put in the ground until June. The Carolina and Lima beans are not, except in very favorable locations, planted until the middle of May. Beans do well on a light soil, except the Lima, which require one considerably enriched.

Beets.—Should the first sowing fail, the seeds may be again put in the ground the first of June.

Borecole and Brussels Sprouts are sown middle of May, and transplanted in July into good ground, in a warm situation.

Brocoli.—The seeds of the purple brocoli may be sown about the middle of May; when of proper size, transplanted into rich ground.

Cauliflower.—The seeds may be sown early in May, and the young plants set out in the latter part of June in very good soil.

Cabbages.—The seeds of Savoy, late kinds, and red, are sown early this month.

Cucumbers.—The varieties to be planted this month are Early Frame, Green Cluster, and Long Prickley.

Corn.—Indian corn, the early varieties, should be planted to be eaten green.

Herbs.—The various kinds of medicinal, pot, and aromatic herbs may be sown. Many of these are not only very useful but saleable.

Melons.—The delicious nutmeg, musk, and water melons are to have a place this month. Sometimes it is necessary to thin the vines, and to pinch off their ends to increase their fruitfulness.

Okra.—Sow in drills near two inches deep and four feet apart.

Peppers.—The different kinds of pepper are sown in a good soil this month.

Peas.—For succession crops, sow this month. To have them come up soon, soak them six to twelve hours. A little milk put in the water is said to cause the bugs to come out of them. Peas are said not to succeed as well with fresh unrotted manure.

Pumpkins.—This valuable vegetable is a profitable crop on almost any soil, particularly on one light and moderately enriched.

Sorrel.—The broad and the round leaved sorrel may be sown this month, in beds or along borders, and when of some height, thinned out to the distance of nine inches.

New-Zealand Spinage.—Plant two seeds in a hill. It is of a luxuriant growth, and stands the heat of summer, at which season it is fit for use.

Squashes.—The early bush squashes are considered the best for gardens. The Vegetable Marrow, and the Cocoa nut Squash, are among the desirable varieties. Five or six seeds in a hill, and the vines reduced to three.

Strawberries.—Most writers recommend a few of the male or barren plants to be set out with the bearing ones. Mr. Floy, of New-York, advises the rejection of all those that are unproductive. By pinching off the runners their bearing is increased.

Taste and Order.—The vegetable garden admits of some display of taste as well as of neatness and cleanliness. The substitution of circles and other figures for squares or oblong beds, and the training on neat trellis work, is sometimes admirable. Letting peas and beans run up on wires or twine, is much neater than bushes or poles. For peas, drive in a neatly painted stake or stick at each end of the rows, and as

many intermediate ones as are necessary; extend the twine along these at different heights for the vines.

English Gooseberries—Ripening Grapes. By M. SAUL. To the Editor of the New-York Farmer and American Gardener's Magazine.

SIR,—I have sent you the price list of the gooseberry trees, and I have marked the weights with the pen, (that is, dwts. and grs.) I took the weights from the gooseberry record of 1832, so that your readers may have the names, prices, and weights, of each sort. The following are the heaviest in each class:

Red Young Wonderful, 27 dwts. 13 grs.; Green Bumper, 30 dwts. 18 grs., this is a seedling, first year of fruiting; White Ostrich, 24 dwts. 20 grs.

There are 22 new seedlings this year, 1832: 6 Red ones, 4 Yellow, 8 White, 4 Green.

The monstrous Pear, called the Green Mountain, has weighed this year, 1832, 20½ oz. I sent a tree of this valuable pear to Mr. Prince, of the Linnean Botanic Garden, near New-York, about 3 years ago. This pear was raised a few years ago in this neighborhood, and is therefore little known, being raised by a cottage gardener, in a village 6 miles from Lancaster.

A singular Twin Cucumber was produced this season; it was perfectly double, being nearly joined together from end to end by the rind; it measured 13 inches long, 6½ inches broad, 17½ inches in circumference, and weighed 5½ lbs.

With respect to Harrison's mode of Glazing, noticed in the London Horticultural Register on this subject, I refer you to No. 4 of the Horticultural Register, pages 147 and '8; you will there find my opinion on Mr. Harrison's plan of glazing.

The following is Mr. Money's plan of constructing Hot-Houses: A lofty house shows grapes the best, say 7 feet high in front and 14 feet high at back; but a high house is hardest to keep warm. If I intend for grapes, and a sloping bank, a good foundation is a great desideratum, and when practicable I raise the ground in front of the house 4 or 5 feet in a sloping direction for about 30 or 35 feet. I would have loam from a pasture ground, a fourth part of rotten horse dung, and a fourth part of sharp sand from a river or brook. This well incorporated will do. Plant the vines on the outside, but do not suffer their stems to appear, or frost will injure them.

When grapes are wanting to be kept late, a dry house is best. I leave the latest sorts until February, and the cutting until April, when black grapes and brown leaves have a singular appearance; but the grapes are as good as they are in October, through keeping them dry. The glazing should be done with putty that will not crack. The outside putty should have 1 lb. of white lead to 10 lbs. of putty previous to using, and that will prevent it from cracking. The putty for the laps should be made with sweet or train oil, for linseed dries and shrinks, and soon slips the laps are better puttied, as it strengthens the glass and causes it to repel a hailstorm.

The flues should be 12 inches deep, 7 inches wide inside, and set clear of the ground by two bricks, flat, to receive the joints of the flags or tiles of the bottom of the flues; the bricks are laid flat, not edge-ways, for such a thickness of the flue retains the heat much longer; and I would here remark that my plan of the hot water system, placed also on the flue, is a great advantage, for at some seasons the flue will not draw so well; but by the tubes being in the fire, the heat is sure to be got up by hot water, and when the flues are in a great drawing way, there is a saving in the fire, as one half is only required. This plan I published in No. 458 of the Mechanics' Magazine, which I sent you.

By this plan a great advantage is obtained by being sure of keeping the house dry in the autumn, or the grapes will mould and drop off; and never suppose that grapes are forwarded

by keeping a close house; but it is the means of spoiling them, for the damp will seize the foot stalk of the berry, and they will shrivel or turn red and be sour. Plenty of free air is highly necessary, to carry off the damp. The slides should be in the roof, every two or three feet from each other, to give fresh air.

* By having a proper selection and different houses, growers may have grapes for 9 or 10 months in succession, commencing forcing about the 20th of January.

The following sorts are well deserving of cultivation, namely, the Muscat Escholate, a new variety, raised from seed by Mr. Money, of the Haverstock Nursery, London; the Muscat Tottenham Park, White Frontignac, West St. Peter, Black Hambro, the White Hambro, this is about a month later than the Black Prince, New Dutch Sweet Water, very fine White Muscadine.

For late forcing the Black Escholate, a new seedling, raised by Mr. Money; the Poonah, the Oldakers, St. Peters. To commence forcing about the middle of April, so that the fruit begins to change color in August, and becomes black in the middle or in the end of November, and may be kept till April. For winter forcing, see Loudon's Gardeners' Magazine, vol. 1, p. 36.

I remain, yours, M. SAUL.

MISCELLANY.

[From Count Pecchio's England.]

THE BETROTHED.

Miss K—— was a young lady of nineteen, tall, handsome, good mannered, lively, without being too gay or impertinent, of a fair complexion, with a soft and subdued but not a languishing look, and large ringlets of fine dark brown hair; such a one, in short, as would be highly admired by the double file of young men between which the fair Italians have to pass when they go to the theatre of La Scala at Milan. On a visit she was paying to a family of her acquaintance, at a good hundred miles distance from the city she resided in, she captivated a young man of the family. He asked her in marriage, and obtained the consent of the young lady and her relations; but as the gentleman was not well advanced in his profession, that of a barrister, it was agreed to defer the ceremony for two years. In the mean time, the betrothed husband came every now and then to visit his affianced wife, was welcomed by all the family with a more than friendly warmth, and looked upon and treated by her friends as the future husband of the young lady. Thus the two betrothed, instead of going to the altar blindfold, had an opportunity (and an enviable patience) to study each other's character, to accustom themselves to mutual respect in the presence of others, and to correct whatever blemish they might find they had. To draw still closer the bonds of acquaintance and friendship between the two families, a sister of the husband staid for several months at the house of his intended wife, rather as a relation than a friend; thus, instead of having one day a censorious sister-in-law, the bride was acquiring for herself a friend in her new family, a bride-maid for her nuptials, and, from the gratitude that a friendly hospitality produces, a supporter and defender on every occasion.

This young lady, who was known to me before the contract of marriage, did not alter in the least her manner of behaviour towards me. She was often beforehand in inviting me to take a walk with her as a guest, and I had sometimes the honor of giving her my arm. Our walk was always a Petrarchesque one, on solitary banks,—amid deserted fields, as the English taste will have it. Two or three times she came to pay me a visit at my own home, accompanied, however, by a dear lively little sister of hers. She entered gaily, chatted good humoredly, and soon unfolded the object of her visit,—generally a polite invitation to dinner or tea: such visits are in this country neither an irregularity nor a phenomenon. Only be a bachelor, and young (but not licentious, at least openly),—and if you fall ill, you will have the visits of all the married and marriageable ladies of your acquaintance.

More than all this,—she knew that my linen was neglected,—being that of an orphan, destitute of country, and wandering over the face of the earth,—and she offered and with gentle violence took upon herself to set every thing at rights; then, with the same care and attention which a tender wife or lovesick damsel would show in latitude 44, she men-

ded up my handkerchiefs and shirts. If, in latitude 44, a young woman had only knitted a purse for me, my blind vanity would have made me believe that purse contained her heart. But the heart of Miss K—— was given to another, and she would have died a thousand deaths rather than be guilty of an indiscretion of that sort. The sacred promise she had given, did not, however forbid her from being, according to the laudable custom of the nation, kind and courteous to me and others. She had a way of always making appropriate and tasteful presents.—When I set out for Greece, she presented me with a handsome edition of Lord Byron's "Child Harold," and when I returned, it having transpired that in my new lodging, I had neither paper nor an inkstand, she stole upon my study when I was from home, with a cousin, who was her accomplice in the magic freak and set upon my table an elegant portfolio, an inkstand, and some very fine writing paper: afterwards to conceal her generous gift, she pretended that it must have have been conferred upon me by two of those fairies who for many ages had lived in England, and danced in the woods and on the green sward. I, (and any body born under a burning sun,) I, who in Italy or in France, should have conceived the hope of a culpable love from any single kind glance that a girl might let fall upon me,—have never had the slightest unbecoming thought of that young lady, on the word of a man of honor. No! far different is the effect of the confidence placed in the man, and of the consciousness of virtue in the lady. Promises of marriage long before their celebration are here of frequent occurrence in the middle classes: if ever the young man breaks his word, the relations of the young woman bring him before the tribunals, and unless he can justify his change of mind, he is condemned to pay a fine proportioned to his circumstances: some of them as high as five and even ten thousand pounds sterling. It is true that this system may favor the perfidious snares of a Lovelace; but how few Lovelaces are to be feared, when the satisfaction of a caprice must cost so much time, so many plots, so many falsehoods and dangers! I believe most men would rather make the tour of the world on foot, than go through all the trouble of Richardson's libertine here to obtain a Clarissa by treachery. Besides, he who betrays a young female in England is visited with the public abhorrence to such a degree, that Mr. Wakefield, who endeavored to deceive Miss Turner, was more detested on all hands than if he had assassinated George the Fourth.

Sculpture and Painting.—"A statue may be compared to a star, and a painting to a flower. The one is apart, unchanging, independent, and sublime—it is full of a light that burns only for itself; it derives no apparent nourishment from any outward source; and it lifts our thoughts to hold communion with higher races than man. The other, belonging to our earth, and the child of it, is a portion of that nature to which we ourselves belong, is fed by the atmosphere we breathe, and clad in colours which attract us the more because we irresistibly connect with them the notion of decay. The statue might be fancied the marble crystals of a spirit that will soon take wing to its planet. The painting is the exquisite and blooming bud, that grows from the native soil of man."—[Arthur Cuningsby.]

Travellers in the East.—The latest accounts from Lieutenant Barnes and Dr. Gerard, state, that after leaving Cabul they had arrived at Khulim, where they were detained by a native Chief, Moer Murad Beg of Kemday, for the purpose of extorting a ransom from them. The Khan of Cabul, however interfered and procured the release.

Jewish Tradition.—"When Moses was still a child, Pharaoh played with him. Moses took hold of Pharaoh's beard, and drew out the jewels with which it was covered. Pharaoh said to Jethro, Balaam, and Job, who were viziers at the time, 'I am afraid that that Jew boy will one day overturn my empire. What is to be done with him?' Balaam advised Pharaoh to kill Moses. Jethro said, 'No, but try whether he has understanding, by putting before him gold and fire: if he take hold of the gold, then kill him; but if he touch the fire, then it is a proof that he will not be clever.' Job was silent, but Jethro's advice was followed. Moses wanted to take hold of the gold, but the angel of the Lord turned his hand towards the fire, which he put to his tongue; on which account Moses had difficulty of speech. I am slow of speech, and slow of tongue.' Job, on account of having followed the system of expediency, was punished as described in the book of Job. Balaam was killed.—[This story is current among the Jews of Meshid.]—[Morning Watch.]

SUMMARY.

THE AMERICAN LYCEUM—of which one object is the improvement of general education by simplifying its processes, and recommending and preparing good elementary works—is now holding its annual meeting in this city—**President Duer**, of Columbia College, occupying the chair. Among the proceedings on Monday morning was a resolution requesting President Duer to draw up the outlines of the constitutional jurisprudence of the United States, and to publish the same in such form as may be best adapted for a text book, for lectures, and a class book, for the use of Academies and Common Schools. We are glad to see this, both because of the importance of the subject and the fitness of the gentleman chosen to illustrate it.

President Duer is now in the regular discharge of his duty—delivering Lectures on the Constitutional Jurisprudence of the United States, to the Senior Class in Columbia College, where such instruction is a part—and very useful part—of the under graduate course. Mr. Duer's law education—his practice and experience as one of the Circuit Judges of this State—and his present avocations as President of the College—combine to render the designation of him by the Lyceum, for the preparation of the work in question, very fortunate.

"The Cholera," says the Nashville Banner of the 20th ult., "is, we learn, prevailing in the lower country, and the steamboat Tobacco Plant, which arrived here last night, reports eight deaths on board from that disease, while on the Mississippi.

A Ladies Fair has been got up in Boston and was to open yesterday at the Faneuil Hall, to aid the funds of the Institution for the education of the Blind, in a style of splendor exceeding any thing of the kind heretofore attempted in this country; the Boston Editors state that it is confidently believed that from 10,000 to \$12,000 will be raised by this Fair.

MR. AUDUBON, as we learn from the Gazette, "accompanied by his second son, Mr. John Audubon, took his departure from our city yesterday afternoon in the steamboat Benjamin Franklin, on his long contemplated excursion to the Coast of Labrador. His object is to study the habits of the numerous water birds which visit us *en passant* to and from those almost uninhabitable regions, where they retire during the breeding season. This is a field which naturalists have but partially explored, and none have contributed so largely as Mr. A. to this interesting subject, as will be proved when his charming biography of birds shall be completed."

It may be of service to Mr. Audubon, and acceptable to any person desiring to subscribe (in his absence) to his great work to say, that letters addressed to Mr. Audubon, to the care of Mr. N. Berthoud of this city, will be duly attended to.

Capt. Back and his party, augmented by four soldiers of the Royal Artillery, who asked and obtained permission to accompany the expedition, left Montreal on Thursday of last week, for La Chine, where they embarked to the number of thirty, in two canoes.

[From the Alexandria Phenix.]

An incident of a most painful nature occurred on board the steamboat *Cygnat*, as she stopped here on her way down, yesterday. An assault was made upon the President of the United States by Mr. Randolph, late of the Navy. At the first blow, we understand, almost a hundred arms fell upon the assailant, and he was with difficulty rescued and carried on shore. We have never known more excitement nor more feeling to be manifested by all our citizens.—We are induced to mention this matter, which ought indeed never to be published, only because we know that reports of it will be circulated throughout the country and printed elsewhere. It was an affair of a moment; but it is said, that, from the feeling produced, it is wonderful that the assailant escaped with his life.

So great was the public indignation at this outrage, that we believe almost any measure would have been adopted to express it. The President was naturally highly excited and exasperated. He departed amidst the cheers and good wishes of the great crowd which had assembled.

In the confusion of the moment, no attempt was made to arrest Mr. Randolph on the instant, but the Court being in session, he was immediately presented by the Grand Jury, and a bench warrant forthwith issued for his apprehension.

"It is understood as certain," says the National Gazette of yesterday, "that William J. Duane, Esq., of this city, has been appointed Secretary of the Treasury of the United States, to succeed Mr. McLane, who will go into the Department of State."

[From the National Gazette.]

Messrs. Carey, Lea and Blanchard have put to press a volume entitled—*Memoranda of a Residence at the Court of London*, by Richard Rush, Envoy Extraordinary and Minister Plenipotentiary of the United States of America, from 1817 to 1825. We have seen, in the hands of the publishers, the table of contents; and judging by that, and the very favorable opportunities and abundant qualifications of Mr. Rush, we expect much instruction and gratification in the perusal of his work. It is likely to appear about a month hence.

Appointments by the President.

Maximo de Aguirre, of Bilbao, to be Consul of the United States at Bilbao, in the place of Francis Xavier de Eulo, resigned.

Joshua Dodge, of Massachusetts, to be Consul of the United States at Bremen.

HEAD QUARTERS OF THE ARMY,

Adj. Gen. Office, Washington, April 18.

The Secretary of War has given the following names to the forts to be constructed and situated on the points and places here below mentioned:

To the work on Grand Terre, Louisiana—Fort Livingston.

To the work on Mobile Point, Alabama—Fort Morgan.

To the work on St. Rosa Island, Florida—Fort Pickens.

To the work on Cockspur Island, Florida—Fort Pulaski.

To the new work now constructing in the harbor of Charleston, S. C.—Fort Sumter.

To the work on Oak Island, North Carolina—Fort Caswell.

To the work on the Pea Patch, Delaware River—Fort Delaware.

To the work on Throg's Neck, New York—Fort Schuyler.

To the work on St. George's Island, Boston Harbor—Fort Warren.

By order of Major General MACOMB,

R. JONES, Adj. Gen.

The Sea Serpent.—Capt. Joshua Knight, of the brig *Speed*, who recently arrived at this Port from Matanzas, informs us that when off Cape Cod, about twenty-five miles distant, he fell in with his snakish majesty, and had a fair view of him for above half an hour. He was about six hundred feet distance; the weather was calm, and he lay sluggish upon the water, as much at his ease as a lazy gormandizer after dinner. Sometimes he appeared entirely motionless, lying like a log a hundred feet in length upon the water. Occasionally he would raise his head; about as large as a barrel, four or five feet above the water, take a calm look abroad and then lay down again as though he were napping. Just back of his head there appeared to be a bunch more than twice as large as his head, and near his tail another bunch somewhat smaller. Capt. Knight is confident he saw a hundred feet in length of the animal out of water at once. He viewed him with a spy glass, and was so near that he could see his eyes distinctly.—[Portland Courier.]

It is certain, says the National Gazette, that Mr. Stevenson, of Virginia, has been nominated Minister at the Court of London.

We learn from Washington that President Jackson will leave that city on the 1st of June, on his tour to the East, and will proceed as far as Portland. He intends to be in Washington again previous to the 4th of July, not wishing to mingle in the bustle and parade which his presence would occasion on that day in one of our large cities.—[Jour. Com.]

CINCINNATI, APRIL 30.—Another Steamboat Lost.

The steamboat *Guyandotte*, while ascending the Ohio last evening, struck a snag, a few miles above this city, and sunk almost immediately. No lives lost. She was the U. S. mail packet from this place to Guyandotte. We have heard no further particulars.

Another splendid packet ship, of 650 tons, intended for the old line of Liverpool packets, was launched yesterday morning from the yard of Messrs. Brown and Bell. She is called the "Europe," and is to take the place of the *Canada*. The latter ship is to be sold this day.—[Jour. Com.]

[From the Raleigh Constitutional.]

"A Vindication of North Carolina from the aspersions of Mr. Jefferson, as contained in the fourth volume of his works, with other matters connected with

the history of North Carolina, from 1771 to 1776," is the title of a work proposed to be issued from the Boston Press in October next, by Joseph Seawell Jones, of North Carolina. We wish this work much encouragement for more reasons than one. Apart from the mere fact, that we desire the success of any literary man from our adopted State, we think this portion of her history is little known. Few, very few, know that North Carolina was the first to give motion to the ball of the revolution, and still fewer are disposed to admit the fact when established by historical evidence. We hope the work about to be issued will contain a full and complete "vindication." This State has too long permitted herself to be deprived of the honor which is justly her due. By men who are acquainted with the matter, it is believed that when Mr. Jefferson penned the declaration of independence of '76, he had that of North Carolina, of 75, on his table. If we are not much mistaken, the journals of Congress announcing the arrival of the North Carolina declaration have been found, and we have little doubt, that the colonial office of Great Britain contains documents which will place the question beyond the reach of controversy.

The National Intelligencer, of yesterday observes, "It is not true that Commodore Rodgers has been arraigned before a Court, or had any charge preferred against him whatever. There is no foundation for the story."

INGENUITY OF THE BLIND.—Wishing to keep his communications from absent friends without the interposition of a secretary, Huber had a sort of printing-press made for his use. In a series of boxes, successively numbered, were placed small types, and these he arranged in his hand. When the lines were composed, a sheet, blackened with a peculiar ink, was laid upon them, and on that sheet again another of white paper. With a press, which he controlled with his feet, he was able to take an impression on a piece of letter paper, which he then sealed and despatched. Such are the contrivances to which the instinctive love of independence will give rise. In taking exercise, Huber was accustomed to take hold of threads, which were strewn through all the walks about his residence. In following them by his hand, he knew his way, and small knots sometimes met his grasp, which, from some known peculiarity, in their form or substance, afforded him some well-understood information as to the direction he was taking.

UNITED STATES SENATE.—The following is the Senate board for the twenty-third Congress. The figures opposite the names mark the periods when the respective terms of the members will expire.—[U. S. Telegraph.]

MAINE.....	Peleg Sprague,	1835
	Ether Shepley,†	1839
NEW HAMPSHIRE.....	Samuel Bell,	1835
	Isaac Hill,	1837
MASSACHUSETTS.....	Nathaniel Silsbee,	1835
	Daniel Webster,*	1839
RHODE ISLAND.....	Nehemiah Knight,	1835
	Asher Robins,*	1839
CONNECTICUT.....	G. Tomlinson,	1837
	N. Smith,*	1839
VERMONT.....	Samuel Prentiss,	1837
	Z. Swift,†	1839
NEW YORK.....	S. Wright,† (a)	1837
	N. P. Talmadge,†	1839
NEW JERSEY.....	T. Frelinghuysen,	1835
	S. L. Southard,†	1839
PENNSYLVANIA.....	William Wilkins,	1837
	One vacancy.	
DELAWARE.....	John M. Clayton,	1837
	Arnold Naudain,*	1839
MARYLAND.....	Ezekiel F. Chambers,*	1837
	J. Kent,†	1839
VIRGINIA.....	William C. Rives,† (b)	1835
	John Tyler,*	1839
NORTH-CAROLINA.....	Redford Brown,	1835
	Wiley D. Mangum,	1837
SOUTH CAROLINA.....	John C. Calhoun,† (c)	1835
	Stephen D. Miller,	1837
GEORGIA.....	George M. Troop,	1835
	John Forsyth,	1837
KENTUCKY.....	George M. Bibb,	1835
	Henry Clay,	1837
TENNESSEE.....	Hugh L. White,	1837
	One vacancy.	
OHIO.....	Thomas Ewing,	1837
	T. Morris,	1839
LOUISIANA.....	G. A. Waggaman,	1837
	J. S. Johnson,	1835
INDIANA.....	W. Hendricks,	1837
	J. Tipton,*	1839
MISSISSIPPI.....	G. Poindexter,	1835
	J. Black,†	1839
ILLINOIS.....	J. M. Robinson,	1837
	E. K. Kane,	1835
ALABAMA.....	W. R. King,	1835
	G. Moore,	1837
MISSOURI.....	A. Bucknor,	1837
	T. H. Benton,*	1839

There will be a decided majority of anti-Jackson members, including the nullifiers.

* Re-elected. † New members.

(a) In place of Mr. Marcy, resigned. (b) In place of Mr. Tazewell, resigned. (c) In place of Gen. Hayne, resigned.

NAVY REGISTER.—Some of the most important changes in the *Navy Register*, as ascertained at the Department during the month of April, 1833.

VESSELS BELONGING TO EACH FOREIGN STATION.

Mediterranean.—Frigates—United States, Brandywine, and Constellation.
Sloop—John Adams.

West Indies.—Sloops—Vandalia, and St. Louis.
Schooners—Grampus, Shark, and Porpoise.

Coast of Brazil.—Sloops—Warren, Lexington, and Peacock.

Schooners—Enterprise and Boxer.

Pacific.—Frigate Potomac, Sloop Falmouth, and Schooner Dolphin.

Notices.—Frigate United States, Captain Nicolson, arrived at Mahon the 27th Dec. 1832, from Tripoli and Tunis—having visited, since leaving Naples on the 17th October, Messina, Syracuse, and Malta, besides the two places above named. Still at Mahon the 18th February.

Frigate Brandywine, Capt. Renshaw, arrived at Mahon the 26th Dec. from Tripoli and Malta—arrived at Gibraltar 7th March—12 days from Mahon—left there the 21st for Tangiers, Lisbon and Madeira, and thence to proceed to the United States.

Frigate Constellation, Capt. Read, was at Mahon all Dec.—still there the 18th February.

Sloop John Adams, Capt. Voorhees, arrived at Mahon the 26th December, from Tripoli and Tunis—arrived at Marseilles about the 1st, and there the 10th March from Mahon.

Sloop Vandalia, Capt. Budd, arrived at Pensacola, the 13th March—there the 19th of April.

Sloop St. Louis, Capt. Newton, sailed from Genoa the 6th, and arrived at Port-au-Prince the 9th March—sailed thence the 13th and reached St. Jago the 20th—left there the 23d and arrived at Pensacola the 2d April—all well—there the 19th.

Schr. Porpoise, Lt. Comd'g McIntosh, arrived at Pensacola the 13th March—still there the 19th of April.

Schr. Shark, Lieut. Comd'g. Boerum, from St. Thomas, was at St. Croix 3d March—arrived at St. Pierre's, (Mart.) the 26th and sailed for Margareta. A vessel appeared in the offing of Pensacola the 19th April, supposed to be the Shark.

Schr. Grampus, Lieut. Commanding Smoot, was spoken 24th March, in lat. 34 deg. long. 77. Arrived at Charleston, S. C. the 29th and sailed thence for the West Indies the 6th of April.

Sloop Warren, Capt. Cooper, at Rio the 21st Feb.—all well—still there the 6th March.

Sloop Lexington, Capt. McKeever, at Buenos Ayres 1st February—for Montevideo next day—at the latter place the 14th and arrived at Rio the 27th—still there the 6th March, bearing the broad pendant of Com. Woolsey.

Schr. Enterprise, Lt. Commanding Downing, arrived at Rio the 27th Feb. from the River Plate—there the 6th March.

Sloop Peacock, Captain Geisinger, was at Lintin (China) from the 1st to the 26th December last—to sail next day for Turon Bay, (Cochin China), and thence to proceed to Siam.

Schr. Boxer, Lieut. Commanding Shields, bound to the East Indies, was spoken 5th Dec., 1832, by a whale ship, lat. 37 deg. 54 sec. south, long. 2 deg. 25 sec. east—all well—expected to arrive at Bencoolen (West Coast of Sumatra) in about 60 days.

Frigate Potomac, Commodore Downes, arrived at Callao 15th December, 1832—13 days from Valparaiso—still there the 6th January.

Sloop Falmouth, Captain Gregory, arrived at Callao the 1st December, 1832—there 22d—and at Puna, (Guayaquil) the 16th January, to sail immediately for Valparaiso.

Schr. Dolphin, Lt. Comd'g Long, was still at Callao the 22d Dec. 1832—at Guayaquil 10th Jan. and at Panama 5th Feb.—sailed thence the 16th for Lima and Valparaiso.

Sloop Natchez, Captain Zantinger, sailed from Charleston, S. C., the 29th March, and arrived at Norfolk the 5th of April. Now on the eve of sailing for her destination on the Coast of Brazil.

Sloop Fairfield, Capt. McCauley, left Norfolk, via New York for her destination in the Pacific, on the 21st of April and reached New York the 27th.

Schooner Experiment, Lt. Commanding Mervine, sailed from Charleston, S. C., the 18th, and arrived at Norfolk the 24th of April—still at Norfolk.

The Mails can be sent to the different squadrons by the following store ships, viz.:

Pantheon, from Alexandria, D. C., to sail probably by the 15th instant for Mahon.

Sorene from Baltimore, for Rio and Valparaiso, expected to sail from the 15th to the 25th instant.

Navy Department, May 4, 1833.

[From the *Washington Globe*.]

The act of the 13th of July, 1832, having made it the duty of the Secretary of the Treasury to cause the several instalments, with the interest thereon, payable to the United States in virtue of the Convention with France, to be received from the French Government and transferred to the United States in such manner as he may deem best, and the nett proceeds thereof paid into the Treasury, it was determined, after having obtained all the information necessary to a decision, to accomplish these objects by drawing on the French Government, and disposing of the bill on the best terms that could be obtained for cash. This course was deemed most advantageous to the interests of the claimants, as it would save the expense of commission which would otherwise have to be paid out of the fund, and as it would be free from all the risks of intermediate agencies. For this purpose offers were invited and many made. The highest price for the bill however was offered by the Bank of the United States, being \$1 for 5f. 37 1-2 centimes. A bill was accordingly drawn by the Secretary of the Treasury upon the French Minister of Finance in favour of the Bank of the U. States, and the proceeds, being \$903,565 89, were at the same time placed to the credit of the Treasurer on the books of the Bank. By the Convention, the amount of the instalment was payable at Paris on the 2d of February last; and as the bill was not drawn until the 7th of February, after the instalment was due, it was made payable at sight.

It is understood, however, that when the bill was received at Paris, no appropriation had been made by the Chambers for the payment of the instalment, and it is believed to be owing altogether to that circumstance that the bill was not paid on presentation. The French Government, it is not doubted, will promptly admit the right of the United States to be indemnified for any loss sustained by the non-payment.

Though notice has been given to the Treasury by the Bank that the bill has been protested for non-payment, it is not understood that it has yet been returned to the United States.

MECHANICAL INGENUITY is certainly an attribute of the American man. We have just seen a beautiful exemplification of it in a pin-making machine, invented by Dr. John I. Howe, of this city, who sails with it in a day or two for England, there to procure a patent for it.

The model machine is small, beautifully made, and worked by hand. We saw it in operation, and from two sorts of wire with which it was fed—one stout for the pin, the other fine, which is twisted into the head—we saw pins complete poured forth at the rate of 40, and with a capability of producing 60, in a minute. The pins are perfect in everything but the coloring, which, as in all cases of pin-making, is imparted by a chemical wash afterwards.

The machines now used for pin-making, only make the pin, the head being afterwards put on by hand, to each separately. Here the head is more firmly, uniformly, and smoothly, made and fastened on by mechanism. We cannot doubt that this all but reasoning machine will well reward its ingenious inventor.

The ship Canada, just taken out of the old line of Liverpool Packets, and whose place is supplied by the new ship Europe, sold at auction yesterday for \$20,000. We understand she was bought by Fish, Grinnell & Co. for the London Line.

[From the *Ebensburgh (Pa.) Spy*.]

FIRE IN THE WOODS.—On Tuesday last the fire broke out in many places in this county, and spread through the woods with great violence and rapidity. The leaves and brush being very dry, and the wind blowing a strong gale, every attempt to stop the progress of the flames was ineffectual. The farmers have suffered much in the destruction of their fences and the consequent exposure of their crops.

The Bridge on the turnpike, over the first branch of the Canemaugh west of Munster, has been totally destroyed.

We have heard of the loss of but one other building, the barn of Ezekiel Davis, a few miles north of this place; but many houses and barns were much exposed, and only preserved by the great exertions of the owners and neighbors. We saw several buildings on fire, and have heard of many more, but the flames were promptly extinguished.

We, together with most of the citizens of this place, were on active duty the greater part of Tuesday, in assisting the neighboring farmers in the pre-

servation of their property. This will account for the late appearance of our paper.

Died, on the 19th inst., at Palatine in the county of Montgomery, Major John Frey, in the 93d year of his age.

Major Frey was one of the few surviving patriots to whom we are indebted for our national independence. From the commencement to the close of our revolutionary struggle, he was an active and intrepid supporter of the American cause. As a member of the committee of correspondence for Tryon county, and as a soldier in the field, he rendered essential services to his country. He was severely wounded at the battle of Oriskany, where he was taken a prisoner by the Indians, carried into Canada, and ultimately to Halifax. During the period of his imprisonment, he suffered intensely from want of proper attention to his wounds, until he was at length rescued from the jaws of death by the skill and humanity of an eminent British surgeon, into whose hands it was his good fortune at last to fall. Soon after the revolution, he was elected a member of the senate of this state. He was a benevolent, upright and honorable man, who enjoyed the respect of all who knew him while living, and who will long be held in honored remembrance now that he is no more.—[Alb. Argus.]

Bank Robbery.—The Narragansett Bank, in Wickford, R. I. was entered on the night of the 27th or 28th ult., and robbed of \$450 in specie, \$352 in bills of other banks, principally of the North Kingston Bank, \$3231 of the Narragansett Bank (new plate) \$1638 of the old plate, and \$8414 in bills unexecuted, new plate. A reward of \$500 is offered for the recovery of the property, and detection of the thieves.

FOREIGN INTELLIGENCE.

FROM MEXICO.—We have received letters from Mexico, by the way of New Orleans, to the first day of April, with the address of President Pedraza to the Congress on resigning his office, made on the 29th of March.

The republic continued in a peaceful state; and we find confidence expressed by some of our correspondents in the prospects of the country. Governor Zavala, whose election as chief magistrate of the State of Mexico we have mentioned, has also received the unanimous votes of his native state, Yucatan, as representative in the general congress, and has been appointed by Mr. Pedraza, Minister to France.—[Daily Advertiser.]

[From the *Baltimore American*.]

LATEST FROM BUENOS AYRES.—The fast sailing brig Mentor, Paterson, arrived here yesterday from Buenos Ayres, whence she sailed on the 17th March. The editors of the American are indebted to the attention of Captain Peterson, for a file of the British Packet to the 16th March, inclusive. From it they learn that considerable excitement prevailed at Buenos Ayres on account of the incursions of the Indians of the South into the interior provinces, particularly San Louis and Cordova, where they had committed dreadful devastations. This circumstance had paralyzed the trade, and stopped the communication with the interior. Several of the provinces had united in an expedition against the invaders, and general Quiroga had accepted the command of it.

The packet of the 9th contains a paragraph stating that Captain Paddock, of the American whale ship Catherine, who had killed three persons and wounded several others at Valparaiso, was shot at that place on the 10th January last. On his way to the place of execution he exhibited unequivocal marks of insanity.

LATER FROM EUROPE.—The *South America* packet ship from Liverpool, brings us London papers to and of the 1st April and Liverpool of the 2d. The intelligence is eight or nine days later than before received.

The report via Havre, published in this paper on the 25th ult., of the continued advance of Ibrahim Pacha upon Constantinople is not confirmed, though that of the occupation of Smyrna on or about the 20th February by a detachment of his troops, seems to be considered as well founded.

The Dutch and Belgian question had made no apparent advance towards a solution; and owing to the mission of M. Dedel, the French and English governments were holding back from any coercive measure.

In Spain, the ascendancy of the Queen's party, which, if not liberal, is less illiberal than the Aposto-

licals, had gained strength by the banishment of Don Carlos. He, together with the sister of Don Miguel, the Duchess of Beira, left Madrid for Lisbon on the 16th April. On the other hand, the sending Count de Puon Rostro to Pampeluna as Governor, is looked upon as a sort of honorable banishment for this prominent Liberal. The Queen and Zea Bermudez, are aiming at what in France is called the *Juste Milieu*.

In Portugal, the fraternal discord was still unsettled. The partial success of the Pedroites in repulsing an attack on their advanced works at Oporto, will be more than compensated, if, as he threatens, Admiral Sartorius should blockade Pedro in Oporto with his own fleet. The Admiral, it seems, does not understand fighting without pay, and for the mere honor of serving Donna Maria's Lieutenant.

From France, the latest accounts received in London anticipated a change in the ministry, and the formation of a new one under *M. Dupin*. The rumor of such a change had affected the French funds unfavorably.

In England, the House of Commons by a decisive majority had passed the Irish Enforcing bill, and were occupying themselves with questions of the greatest moment in their civil polity. A motion by Mr. Robinson to substitute a qualified property tax, for the various assessed taxes, which are most onerous, was debated with a manifest leaning to the adoption of some such sure and equalizing expedient; though, as it was opposed by ministers, it was lost—221 voting against, 155 in favor of it.

The East India monopoly is certainly to be cut up; though restrictions as to the residence in India will still be maintained. But our limits to-day forbid further extracts.

GREAT BRITAIN.

LONDON, MARCH 27.—The opinion of the proprietors of the East India Company, expressed in a manner least open to the suspicion of insincerity, (by an increased indisposition on their part to sell their stock which has been accompanied too, by an increased desire on the part of others to buy it), is conclusive, we presume, as to the success of the arrangement of the India question proposed by the Ministers. India stock rose yesterday from 208 to 222 or 223 per cent.

LONDON, MARCH 28.—The following are the conditions on which the government has proposed to the Directors of the East India Company that the tea trade shall be thrown open: 1st, The trade in tea is not to be thrown open for the consumption of Great Britain until the year of 1836, because it is alleged that either in England, in China, or on the way home, there will be two years' stock of tea after April 1834, when the monopoly by the charter act expires: 2d, No port to be allowed to carry on the external tea trade that has not wet docks and government warehouses within its walls; 3d, A minimum of the tonnage of the ships carrying on the trade to be prescribed, in order to guard against smuggling. Deputations are understood to be on their way, from all the out-ports, to remonstrate against them.—[Times.]

East India Company—Opening of the China Trade.

A meeting of the East India Proprietors was held in London, on the 25th March, for the purpose of receiving from the Directors, communications relative to the correspondence and negotiations which have taken place between the Government and the East India Company, on the subject of the renewal of their Charter. The attendance was very numerous, and some of the documents laid before them were of the very highest importance; involving, as they do, the commercial concerns of the British empire, and the interests of so many millions of her subjects. From these proceedings we now learn the nature of the terms which the Government has proposed for settling the great questions relative to the trade and political administration of India. After various interviews between Earl Grey and Mr. C. Grant, a plan has been agreed to, of which the following are stated to be the principal heads. At the same time it was stated to the Proprietors, that although the arrangements, on the whole, appeared to be eligible, the subject was left open to discussion, and Government would be ready to weigh the merits of any other scheme that might be suggested:—

1. The China monopoly to cease.

2. The East India Company to retain its political functions.

3. The Company's assets, commercial and territorial, to be assigned to the crown, on behalf of the territorial Government of India.

4. An Annuity of £630,000 to be granted to the Company, payable in England half-yearly, to be charged on the territorial revenue of England, not to be redeemable before the 25th of April—, and then to be redeemable at the option of Parliament on the payment of 100l. for every 5l.; 5s of annuity.

5. The revenue of India to be chargeable with all the expenses incurred on account of that country, either at home or abroad.

6. The new annuitants to retain their character of a Joint stock Company, the qualification and right of voting to remain as at present.

7. The number of the Court of Directors to be one fourth, going out in rotation every year.

8. The patronage, civil and military, to remain with the Directors as at present.

9. The civil servants of the Company to be educated at Haileybury. The number of students always to be greater than the probable number of vacancies. To remain in the College for—

10. The Directors to fill up the vacancies each year. Each Director to appoint in his turn.

11. The 47th section of the 53d of Geo. III. to remain in force, but to be made applicable to removals as well as to appointments.

12. Every British subject to have the right of going to and settling at, either of the Presidencies without license; but the right of going into, trading, or settling in the interior, to be subject to such restraints and regulations as the local Government might require.

13. The Board of Control to have right of altering despatches: and, on the refusal of the Court of Directors to send them out, to have the power of sending out such despatches themselves.

14. The appointment of Governors to remain, as at present, with the King. The veto still to continue with the Court of Directors.

Before breaking up, the meeting agreed that the consideration of the question should be adjourned to the 14th of April.

HOLLAND AND BELGIUM.

Rumour speaks of the rejection by the British and French Plenipotentiaries of the first propositions of M. Dedel—viz., the formation of a provisional treaty, on the following grounds:—The removal of the embargo on Dutch ships, and the cessation of the blockade of the Dutch coast; the restoration of the Dutch prisoners now in France; the declaration that no evacuation of territory was to take place on either side, and that Belgium was to pay no portion of the debt until a final treaty be agreed upon; the Scheldt to be placed on the footing of 1830, and regarded as free as any portion of the sea; the navigation of the Meuse to be established provisionally by the basis of the tariff of Mentz; that the neutrality of Belgium was not to be acknowledged by Holland; and, finally, that an armistice was to be fixed to the 1st of August next.

TRIESTE, MARCH 18.—The last accounts from Corfu confirm the news that all parties in Greece have made their submission, and that universal tranquility prevails. Trade is resuming its activity. New ships are already constructing on the south side of the Morea, as well as in the dock yards of Galixidi, in the Bay of Cerinth.

LONDON, MARCH 25.—The following letter has been received at Lloyd's this morning, dated 20th February—"On the evening of the 18th instant our town surrendered to Ibrahim Pacha, who merely sent an officer to ask our Governor to give up the town, which was immediately done. All the neighboring towns are under the government of Ibrahim Pacha. Sundry inland duties have been taken off, and the people appear to be in favor of the new Government. It is said that in a few days we shall have an army of 1000 men here. The town remains tranquil, and property perfectly safe. Not the least alarm exists; all payments due this post have been suspended by arrangement."

LONDON, APRIL 1.—(Express from Paris.) We have received the Paris papers of March 30th, and *Messenger des Chambers*, *Nouvelliste*, and *Gazette de France* of yesterday. Their contents are interesting. No authentic accounts had been received in Paris from Constantinople of a later date than 25th February; a circumstance which is represented to have caused uneasiness even to the government.—From Smyrna letters are said to have reached the French capital, stating the particulars of the occupation of that city by the troops of Ibrahim, amounting to about 9,000 men. On the other hand, we learn

from Belgrade that the Sultan, distrusting alike the assurances of France and Ibrahim's asserted love of peace, had ordered the armament of the general levy of the subjects of the Porte. The non-arrival of despatches to the French Government from Admiral Roussin was deemed in Paris of serious import; for the impression was general that, had the Russian fleet actually left the Bosphorus, that important fact would have been announced to his Government by the French Ambassador, and by Government to the public.

NEW-YORK AMERICAN.

MAY 4, 6, 7, 8, 9, 10—1833.

LITERARY NOTICES.

WILLIAMS'S NEW-YORK ANNUAL REGISTER, FOR 1833. New-York, PETER HILL.—This is the fourth year of the existence of this certainly valuable and accurate statistical work. It is, too, from the language of the preliminary notice, the year that is to determine whether or not a publication so expensive and laborious shall be continued. Hitherto, the demand for the book has not compensated the cost of publication. Yet we are sure, that at the same price, \$1.50, it would be difficult to compress within a smaller compass, or with more discriminating selection, so great a mass of valuable, and to most classes of persons, indispensable, information. An almanac, all that relates to the statistics of this State, its population, resources, institutions of education, of business, of charity, its public funds, its roads and canals, its schools and colleges, its judicial officers, its militia, clergy, and in short, all the topics usually comprised under the head of statistics; a national register, comprising information respecting Congress, the various Executive departments, foreign functionaries, the army and the navy, a correct and alphabetical tariff;—these are but a portion of the contents of this volume. We recommend it, therefore, cordially, to general patronage.

MECHANIC'S MAGAZINE, Nos. III. and IV.: New York, D. K. MINOR.—If this publication should fail of support, destined as it is to the amusement and instruction of so large and influential a class in all our American communities, as that of the mechanics—and edited with such intelligence and judgement, by one who was himself brought up a mechanic—it would argue unfavorably to the progress of sound and useful knowledge. From the spirit however with which the undertaking is continued, and from the greater efforts manifested in each successive number to render the work more diversified as well as more perfect, we infer that the patronage it meets with is encouraging. We find in No. IV. a sketch of Henry Brougham—to whom, more than any man living, the cause of popular education is indebted—with a fac simile of his hand writing. The engravings illustrating the papers are numerous and well executed. In No. IV. is commenced the republication of Babbage's admirable book on the economy of manufactures and on machinery, which it is proposed to republish entire in successive numbers, and with such an arrangement as to place and paging, that in binding up the magazine, this part may be detached and bound up as a separate volume.

When it is considered that each number of this Magazine is furnished separately for 37 1/2 cents, and that—cheaper still—\$3 paid in advance, secures the twelve numbers for the year—the work cannot fail to strike every one as entitled not less by its cheapness than its usefulness, to liberal support.

BOTANY FOR BEGINNERS—an introduction to Mrs. Lincoln's lectures on Botany—by Mrs. A. H. L. PHELPS. Hartford, F. J. HUNTINGTON.—Under another name we have the clever author of the "familiar lectures on botany," now presenting for "the use of common schools, and the younger pupils of higher schools and academies," an elementary discourse, easily understood and therefore easily to

is taught, of this attractive branch of natural science. It is abundantly illustrated with engravings, and appears to us to present its subjects with simplicity and distinctness.

LECTURES ON DRAMATIC ART AND LITERATURE.—Second Notice.—This is no common work; and while we are much surprised that it has not before been republished in this country, we shall have no hesitation in recurring more than once to the edition before us. In the present instance, we would make a few observations in passing, upon one department of his labors, which Schlegel has managed with great comprehensiveness and ability. It is his view of the two great periods of the English Theatre, the Elizabethan, or Shakspearian age of the drama, and the Charles II. era, the time of the Wicherlys, Farquhars, and Congreves. The German critic dwells with enthusiasm upon the gigantic strides which were made during the first, in an art almost previously unknown; and he regards "these time-bettering days," as Shakspeare called those in which he lived, as one of those periods when the human mind makes a spring in its advancement, as if it had been for ages gathering strength for the effort. Still, we think, that with the exception of the master spirit of the age, of whom he is, if not the ablest, certainly the most eloquent and delightful commentator that ever wrote, Schlegel hardly does full justice to the admirable dramatic talent of that period. Beaumont and Fletcher, indeed, especially the last, are well treated at his hands; but Massinger, in spite of his eloquence and force, his natural delineation of character, and poetical diction, is dismissed in a brief paragraph; while the elegance and elevation of Ford, his easy versification and harmonious language, and his deep and natural pathos, have not even procured him the mention of his name. This omission is the more remarkable, as Decker, Marston, Webster, and others of similar note, are mentioned, though few of them in complimentary terms. The comic talent of Chapman, the translator of Homer, and the power of Heyward, the author of *Woman Killed with Kindness*, in domestic tragedy are both commended; but the other cotemporaries of Shakspeare, whose names we have just mentioned together, are both summarily, and perhaps justly classed in a fraternity of imitators; while Lilly and Marlowe, his two most noted predecessors, are brought into most dangerous juxtaposition, for the reputation of the latter. The line is distinctly drawn, however, between the author of *Euphæ*, (from which we presume Scott's Sir Piercie Shafton, like most of the courtiers of his time, borrowed the tone of his stilted phrases) and the pathetic writer of Edward II. Lilly is called by Schlegel "a learned wittling, but in no respect a poet;" and, though he professes himself unable to conceive how Ben Jonson could have used the expression, "Marlowe's mighty line," yet the flowing verse, the artless manner, the truth and simplicity that probably awakened "Rare Ben's" admiration, are far from thrown away upon one whose sensibility to poetic beauty is so delicate as Schlegel's. As for Jonson himself, it can hardly be expected that so stout a stickler for the rights of Shakspeare as our commentator, will let one who tried by the most unworthy means to pluck the budding laurel from his brow, escape without undergoing the most rigid critical discipline. His success in that species of composition where the understanding comes in for the greatest share, and imagination and feeling are merely subordinate, is fully allowed; but his pieces are pronounced deficient in soul—in that nameless something, which always continues to attract and enchant us, for the very reason that it cannot be defined, but, like the irregular outline of a chain of mountains, or the undefined glades of a forest, leads away the eye with images, whose grace hardly disappears as they fade into indistinctness, or lures it into recesses where it delights to

lose its power. Schlegel, like every one else, we presume, thinks far better of Jonson's comic than of his tragic powers. He observes that his characterization, however, is better suited to serious satire than playful ridicule; and he denies that he was at all gifted by nature with that light and easy raillery, which, playing harmlessly around everything, is so much the more pleasing, from seeming to be the mere effusion of gayety, and which Schlegel regards as so much the more philosophic, as it is not the vehicle of any definite doctrine, but merely contains a general irony.

Of Beaumont and Fletcher, our critic speaks in warmer terms of praise. Without attempting to distinguish the hand of either in the works they avowedly composed together, or adopting the opinion of their contemporaries, which attributes boldness of imagination to Fletcher, and maturity of judgment to his friend, making the former the inventive genius, and the latter the directing and moderating critic, he does justice to the distinguished talents that were united in both. He points out the want of a profound seriousness of mind in their writings as the chief defect; and he thinks that the presence of that sagacity in art which observes a due medium in everything, and keeps constantly in view the *modus in rebus* denique *fines* of fancy and passion, (if the Latin term may be so applied) is all that, with their felicitous ease, and fecundity and flexibility of mind, is wanting, in a literary point of view, in their works. But the immodest conceptions, and licentious language of these brother poets, meets with no mercy at the hands of Schlegel; and those abominable plots which they contrived with so much ingenuity, as if the chief object of them were to outrage the commonest ideas of decency, meets with the justly indignant animadversion of the critic.

It is in treating of the second period of the English drama, however, that the manly mind of Schlegel gives fullest vent to the emotions excited by some of the most vaunted productions of the English theatre. He traces briefly but vividly the effect of a grossly immoral court upon the stage, when the theatres, after being closed for a period of thirteen years, were thrown open at the accession of the profligate Charles II. to the throne of his unhappy father. The influence of that worthless and contemptible Prince's habits upon a whole nation, can hardly, even at this distance of time, be contemplated with patience. The age of Louis the Fourteenth was no where imitated with greater depravity than at his abandoned court. "The prevailing gallantry," says Schlegel, "at the court of France was not without reserve and without a tenderness of feeling; they sinned, if I may so speak, with some degree of dignity; and no man ventured to attack what was honorable, though his own actions might not exactly coincide with it. The English played a part which was altogether unnatural to them. They gave themselves heavily up to levity; they everywhere confounded the coarsest licentiousness with free mental vivacity, and did not perceive that the sort of grace which is still compatible with depravity disappears with the last veil which it throws off." The coloring of this picture, though it be strongly drawn, can hardly seem too heavily charged to any one familiar with the memoirs of that day, or who allows the comedies of the time to be a fair presentment of the then condition of society. A complete collection of these plays (Bell's British Theatre) is at this moment before us; and turning over the pages that have so entertainingly beguiled many an hour, and with all the fondness of early association for the celebrated names of Wicherly, Congreve, Farquhar, Vanbrugh, and their compeers, we cannot help uniting with the honest German in his astonishment that the audacious ribaldry, the moral scepticism, the most unblushing indecency of those writers could have been counte-

nanced in any age or country pretending to a moderate degree of refinement. We cannot help uniting with Schlegel in the unmeasured contempt to be accorded to such a state of public taste, even while we know—what he seems not to be aware of—that some of these plays still keep possession of the theatre—though the last time one of the most characteristic of the class (for wit and indecency combined) was represented at the Park, it was only respect for those who played in the Inconstant that kept the audience from hissing it from the stage. It is a melancholy reflection that writings which contain so much witty observation and so many admirable touches of character, should have afforded the enemies of the drama the most powerful weapons with which to assail it; and yet, so long as they are allowed to be a part of the acting theatre, they almost justify the denunciations of those who condemn the stage as a school of depravity. They were composed in an age when the English people had retrograded centuries behind the age of Shakspeare in real refinement, while they arrogated to themselves claims to a much higher state of civilization than in the age of Elizabeth. They were composed in an age when that sex—whose present condition and acknowledged influence in society is next to Christianity itself in effect in rendering the state of mankind superior to what it was two thousand years ago—seemed rapidly sinking into the same estimate in which they were held, when in the vaunted days of Athenian civilization they were but the toy and pastime of those, whose labors have made the human race their debtors. They breathe an impure spirit; they give a nauseous coloring to the heart—such as even that bold interpreter of sensuality, Aristophanes, never approached in offensiveness.—Let them perish in their impurity—not only to prevent the gangrene of grossness from extending further, but that in consigning those to merited oblivion who prostituted their abilities in rearing these lamentable memorials of their age, men may learn, that however the power of wit may be temporarily increased by exercising it for the amusement, and adapting its sallies to the taste of a Sybaritic Prince and his lewd associates,—the soul whose influence is to survive the grave must never sparkle in the breast of a parasite, but shine out from the bosom of one who looks beyond the countenance of a King or the favor of a coterie. The most undoubted proof of genius—that of being in advance of the age in which it has its birth—is wanting in these writers. They were but portrait painters of pitiful originals; and though the fresh vigor of their pencil at one time, and its felicitous ease at another, may have imparted consequence and grace to features essentially vulgar and contemptible, their delineations of character, are now as offensive to the eye of taste as the hoops and towering head-dresses of the women of quality, and the huge perukes, wide sleeves, and ribbon-knots of the fine gentlemen whose manners they depicted.

We have perhaps delayed somewhat too long upon these two periods of the British stage: but our observations are comprised within the least possible limits that a just attention to the text (which we have endeavored closely to follow,) would allow.

The Music sent to us during the week, from Hewitt & Co.'s warehouse, is—*The Merry Swiss Girl*; *The Minstrel's Tear*; *The Mistletoe Bough*; *Can I again that look recall*; all arranged for the guitar, by Otto Torp; *Cielo a miei lunghi spasimi*, an aria (it is nothing more nor less than the well-known air of "Home, sweet home,") from the opera of Anna Bolena, as sung by Madame Pasta; *La voix de ce qu'on aime*, a romance, of which the words and music are by Amédée de Beauplan; *The Young Cavalier*, composed by C. E. Horn, and sung by Miss Hughes, and *Mine alone*, a tyrolian air, by C. de Beriot.

POETRY.

[FOR THE AMERICAN.]

"Glenara, Glenara, now read me my dream."—Campbell.
 Have you seen Monsieur Sabert, Mr. Editor? I don't mean the Fire King, but the necromancer?—Do go—he is a love of a conjuror; and can change anything into anything else so quickly, that if they were beaux, one wouldn't have time to get tired of them. I do wish gentlemen would learn a little jugglery for variety's sake; it would make them so enchanting. Only think now of my sister Lessy having had a horrid dream, which none of the stupid men around us could interpret! and yet, so soon as we girls had put our heads together, and described it in rhyme to Mr. Sabert last night, the dear man at once gave the true meaning, as you may yourself see, good Mr. Editor, by reading our account of the vision with Mr. Sabert's interpretation below.

Your constant reader,

FIORELLA.

DREAM.

Young Lesbia slept. Her glowing cheek
 Was on her polished arm reposing,
 And slumber closed those fatal eyes,
 Which keep so many eyes from closing.
 For even Cupid, when fatigued
 Of playing with his bow and arrows,
 Will harmless furl his weary wings,
 And nestle with his mother's sparrows.
 Young Lesbia slept—and visions gay
 Before her dreaming soul were glancing,
 Like sights that in the moon-beams show,
 When fairies on the green are dancing.
 And first, amid a joyous throng,
 She seemed to move in festive measure,
 With many a courtly worshipper,
 That waited on her queenly pleasure.
 And then—by one of those strange turns
 That witch the mind so when we're dreaming—
 She was a planet in the sky,
 And they were stars around her beaming.
 Yet hardly had that lovely light,
 (To which one cannot here help kneeling,)
 Its radiance in the vault above
 Been for a few short hours revealing:
 When, like a blossom from the bough
 By some remorseless whirlwind riven,
 Swiftly upon its lurid path,
 'Twas back to earth like lightning driven.
 Yet brightly still, though coldly, there
 Those other stars were calmly shining,
 As if they did not miss the rays
 That were but now with their own twining.
 And half with pique, and half with pain,
 To be from that gay chorus parting,
 Young Lesbia from her dream awoke,
 With swelling heart and tear-drop starting.

INTERPRETATION.

Had she but thought of those below,
 Who thus were left with breasts bewitched,
 Till Heaven dismissed that star to earth,
 By which alone our hearts are lighted—
 Or, had she recollected, when
 Each virtue from the world departed,
 How Hope, the dearest, came again,
 And staid to cheer the lonely-hearted:
 Sweet Lesbia could not thus have grieved,
 From that cold dazzling throng to sever,
 And yield her warm young heart again,
 To those that prize its worth forever.

MARRIAGES.

On Tuesday the 7th instant, by the Rev. Joel T. Benedict, of Philadelphia, ERASTUS C. BENEDICT, Esq. to Miss CAROLINE M. BLOODGOOD, both of this city.

On the 30th of April, by the Rev. Dr. McAuley, JAMES MCNAUGHTON, M. D., of Albany, to CAROLINE, daughter of Archibald McIntyre, Esq. of this city.

In Syracuse, on the 1st inst., Lt. R. B. MARCY, U. S. A., to Miss MARY ANNE MANN, daughter of the late Saml. Mann, of Syracuse.

At Cedar Point, the residence of Henry Sewall, Esq. St. Mary's County, Maryland, on the 25th ult. by the Rev. Mr. Carbery, PHILIP B. KEY, Esq. of Prince George's County, Maryland, to Miss MARIA L. SEWALL, youngest daughter of the late Nicholas Sewall, Esq. of the former place.

At Washington City, on Thursday evening, 25th ult. THOMAS PENNANT BARTON, Esq. of Philadelphia, to CORA, only daughter of Hon. Edward Livingston, Secretary of State.

DEATHS.

On Friday, 3d instant, after a short illness, ELIZABETH, wife of Eleazer Lord, aged 39 years.

Monday morning, May 6, FRANCIS M. MCKINLEY, in the 28th year of his age.

This morning, after a short illness, aged 68 years, Mrs. CATHERINE, relict of the late Herman Hoffman. Her remains will be conveyed to Red Hook, Dutchess county, for interment.

Last evening, LEWIS EDWARD, son of James F. Penniman, aged 4 years and 1 month.

At Walden, Orange county, N. Y. on the 29th April, at the house of his brother-in-law, the Rev. W. H. Hart, TOWNSEND MOORE, Esq. in the 51st year of his age—late of this city.

At Dracut, Mrs. MOLLY VARNUM, relict of the late Hon. Joseph B. Varnum, 82 years. Mrs. V. was one of the many female worthies of the revolution. She aided her husband in getting men for the army, by her kind and encouraging solicitations, and clothed them with the sheets and blankets from her beds.

Departed this life, at Circleville, Ohio, on Saturday, April 7, in her 33d year, after a painful illness of a fortnight, THEODORA P. HOPKINS, wife of Mr. R. H. Hopkins, Merchant. Mrs. H. had been a Member of the Protestant Episcopal Church from the age of 16; and, whilst known as the active, untiring supporter of her own peculiar communion, she was scarcely less so, in promoting the cause of Christ in general. With a mind of a superior order, greatly improved by cultivation; an activity of body, surprising in one of her delicate frame, she added warmth of affection, and decision of character, which rendered her an ornament to her Christian profession, and a pattern to her sex, in the various relationships of wife, mother, sister, and friend. Though tried by her sufferings of years, her patience was unwearied; her childlike reliance on the love of her Heavenly Father, unshaken; and her prospect of eternally enjoying the blood-bought inheritance, unclouded. With a conviction of sin, the deepest; a reliance on the merits of her Saviour the most confiding, she breathed out her spirit into the hands of her faithful Creator.

Reader! what she was, she was by grace.

MECHANICS' MAGAZINE,
AND

Register of Inventions and Improvements.

To the Mechanics of the United States.
 —In this populous and enlightened country, almost every description of persons can obtain knowledge and amusement, connected with their peculiar pursuits, through the Medium of the Journal or Magazine especially devoted to their interests. The Theologian, the Farmer, the Philosopher, the Sportsman, and even the Plough-Boy, has each his journal, where he can find a record of the passing events of the day, connected with his peculiar avocations, and recreation. Hitherto, the Mechanics (who form a large and most important portion of the community) have had no Journal to which they could turn, with the certainty of finding that information they desire—no periodical, of which they could with confidence say,

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In the hope that the attempt to supply such a want, at a price so reasonable as to be within the reach of all, will meet with your active support, the subscriber proposes to publish on the first day of each month a "Mechanics' Magazine." It will contain a well digested selection of the most useful and interesting articles from the London Mechanics' Magazine, London Register of Arts and Sciences, Repertory of Inventions, Library of Useful Knowledge, Journal of the Franklin Institute, and other works connected with the Arts and Manufactures published in this country and in Europe, accompanied with numerous well executed engravings. Its pages will be open for the communications of all, and especially for those of the Practical Artisan, to whose interests it will be more particularly devoted.

The "Mechanics' Magazine" will contain also a due portion of the occurrences of the month, Scientific and Literary, Reviews of Books, Anecdotes, Economical Receipts, Reports of the state of Mechanics' Institutions, and other Scientific Societies in this and other countries.

In order that the work might be produced to the entire satisfaction of those for whom it is designed, and with credit to myself, I have secured the aid of a gentleman who was for several years engaged in publishing the London Mechanics' Magazine—a work of great merit and extension, and which Dr. Berkebeck, the President of the London Mechanics' Institution pronounced as the most valuable gift the hand of science ever offered to the Artizan.

Each succeeding number will contain 64 pages, handsomely printed, and attached in a neat cover. Six numbers will form a volume, for which an Index and Title-page will be supplied, and also a Portrait of some distinguished Mechanic, as a Frontispiece.

Terms, \$3 per annum, in advance.

D. K. MINOR, 35 Wall street, New-York.

* * No 4 (for April) is just published and ready for delivery.

TO DIRECTORS OF RAILWAY COMPANIES AND OTHER WORKS.

An Engineer lately from England, where he has been employed in the location and execution of the principal railways in that country, wishes to engage with some company in the United States.

From his practical knowledge of the various kinds of motive power, both of stationary and locomotive engines, also the construction of railway carriages of many descriptions, he has no doubt that he would prove of efficient service to any company having works now in progress.

Letters addressed to W. E. G. 35 Wall street, or to the care of Wm. & F. Jacques, 90 South street, will be punctually attended to. Most satisfactory reference can be given. ml 1f

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee & May, offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervia, Eng. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbonade, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, }
January 29, 1833.

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ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new; among which are an Improved Compass, with a telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
ml 1y German and Norrist. Railroad

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6 boxes each 50 lbs. Tartaric Acid	
6 do. each 25 lbs. do. do.	
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10 cases White Hermitage; 20 do. Cote Rotie	
10 do. Dry St. Peray; 50 do. Bordeaux Grave	
20 do. Chateau Grille; 5 cases each 12 bottles Olives in Oil	
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